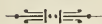




CITY OF BRADFORD.



REPORT

ON THE

Health of Bradford

FOR THE YEAR 1897,

BY THE

MEDICAL OFFICER OF HEALTH.



BRADFORD :

M. FIELD & SONS, PRINTERS, GODWIN STREET.



# Sanitary Committee, 1897.

*(Meets Every Wednesday, at 5 p.m.)*

THE WORSHIPFUL THE MAYOR.

MR. ALDERMAN F. W. JOWETT, Chairman.

MR. COUNCILLOR P. SMITH, Deputy Chairman.

MR. ALDERMAN BOTTOMLEY. MR. ALDERMAN POPPLEWELL.

„ LISTER. „ ROBINSON.

MR. COUNCILLOR CROSSLAND MR. COUNCILLOR MOORHOUSE

„	DAWSON	„	MOSER
„	DOBBY	„	O'FLYNN
„	FREEMAN	„	ABRAM PEEL
„	GRAY	„	PRATT
„	GREENWOOD	„	PRIESTMAN
„	HAYHURST	„	ROBINSON
„	HORSFALL	„	S. SMITH
„	JOHNSON	„	STOTT
„	MILNER	„	WILLIAMSON
„	MINTY	„	H.S.WRIGHT

MR. COUNCILLOR JAS. WRIGHT.

## City Hospitals Committee, 1897.

*(Meets Last Tuesday in Each Month.)*

MR. ALDERMAN F. W. JOWETT, Chairman.

MR. COUNCILLOR P. SMITH, Deputy Chairman.

MR. ALDERMAN BOTTOMLEY.

" " LISTER.

" " POPPLEWELL.

" " ROBINSON.

" COUNCILLOR CROSSLAND.

" " DAWSON.

" " DOBBY.

" " FREEMAN.

" " HAYHURST.

" " MILNER.

" " MINY.

" " MOSER.

" " PRATT.

" " PRIESTMAN.

" " ROBINSON.

" " S. SMITH.

" " STOTT.

" " WILLIAMSON.

" " JAS. WRIGHT.



## Staff of Health Department.

---

W. ARNOLD EVANS, M.D.,	Medical Officer of Health.
F. W. RICHARDSON,	Consulting Chemist and Public Analyst.
JAS. CHAMBERS,	Chief Inspector of Nuisances.
J. HEMINGWAY,	Meat Inspector.
W. C. RHODES,	Food and Drugs Inspector.
T. W. CALVERT,	Inspector under Shop Hours' Act.
J. P. GREENWOOD,	Sub Inspector of Nuisances.
T. H. RAMSDEN,	„ „
H. DRAKE,	„ „
R. YEADON,	„ „
H. E. WYNN,	„ „
T. ELLISON,	„ „
R. PARKER,	„ „
S. HARRISON,	„ „
H. SIMPSON,	„ „
C. SUTCLIFFE,	Disinfecting Officer.
J. McTAGGART,	Manager of Destructor Works.
J. CROWTHER,	Statistical Clerk.
G. H. BRAMFITT,	Clerk.
R. WALTON,	„
W. MARGERISON,	„

---

In addition to the above the Medical Officer of Health is assisted in the Inspection of New Buildings by the following officers under the Building Committee :—

T. PRESTON,	Chief Building Inspector.
H. E. CRAVEN,	Assistant Building Inspector.
I. INGHAM,	„ „ „
F. GLEDHILL,	„ „ „


# INDEX.

	PAGE.
Adulteration of Food	45
Ages at Death	11
Articles Disinfected	38
Bacteriological Report	70
Bakehouses	50
Births	5
Birth-rates in Wards	6
Bronchitis	34
Burial Grounds	43
Canal Boats	44
Cancer, Deaths from	35
Cattle Disease	50
Chief Inspector's Report	41
Common Lodging Houses	45
Cow Sheds	48
Dairies	48
Dangerous Places	44
Deaths	7
Death-rates in Wards	32
"    "    33 Chief Towns	36
Decrease in Chief Diseases	8
Density of Population	3
Destructors	53
Diarrhoea	23
"    and Temperature	64
Diphtheria	21
Disinfecting Station	38
Fever Hospital	58
Food Examined	47
Increase in Chief Diseases	8
Infantile Death-rate	14
"    "    in Wards	13
Infantile Diseases	12
Infectious	16
"    "    Notification of	28
Inquests	35
Insanitary Dwellings	40

Marriages	...	...	...	...	...	...	4
Measles	...	...	...	...	...	...	19
Meat, Inspection of	...	...	...	...	...	...	49
Milk-shops	...	...	...	...	...	...	48
Mortality in Wards	...	...	...	...	...	...	11
„ „ 13 Largest Towns	...	...	...	...	...	...	10
New Buildings	...	...	...	...	...	...	39
Phthisis	...	...	...	...	...	...	33
Pleurisy	...	...	...	...	...	...	34
Pneumonia	...	...	...	...	...	...	34
Population	...	...	...	...	...	...	1
Public Institutions, Deaths in	...	...	...	...	...	...	16
Refuse Destruction	...	...	...	...	...	...	53
“ Shop Hours Act ”	...	...	...	...	...	...	50
Scarlet Fever	...	...	...	...	...	...	22
„ „ since 1870	...	...	...	...	...	...	29
Scavenging	...	...	...	...	...	...	43
Seasonal Mortality	...	...	...	...	...	...	14
Slaughter-houses	...	...	...	...	...	...	49
Smallpox	...	...	...	...	...	...	28
Tuberculous Diseases, Other	...	...	...	...	...	...	34
Typhoid Fever	...	...	...	...	...	...	26
„ „ Notification of	...	...	...	...	...	...	26
Uncertified Deaths	...	...	...	...	...	...	35
Urinals	...	...	...	...	...	...	44
Vaccination Returns	...	...	...	...	...	...	69
Vital Statistics	...	...	...	...	...	...	1
Wards, Population of	...	...	...	...	...	...	3
Whooping Cough	...	...	...	...	...	...	20
Workshops	...	...	...	...	...	...	50
Zymotic Diseases	...	...	...	...	...	...	17
„ „ in Wards	...	...	...	...	...	...	31
„ „ Other	...	...	...	...	...	...	24

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Chart—Meteorological Conditions and Death-rate	<i>to face page 1</i>
Table of Population, Births, and of new cases of Infectious Sickness	56
Table of Deaths during the year 1897	57



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CITY OF BRADFORD.

Chart shewing principal Meteorological Conditions and number of Deaths during each week of the Year 1897.

RAINFALL.

BAROMETRIC READINGS.

WEEKLY RANGE OF TEMPERATURE.

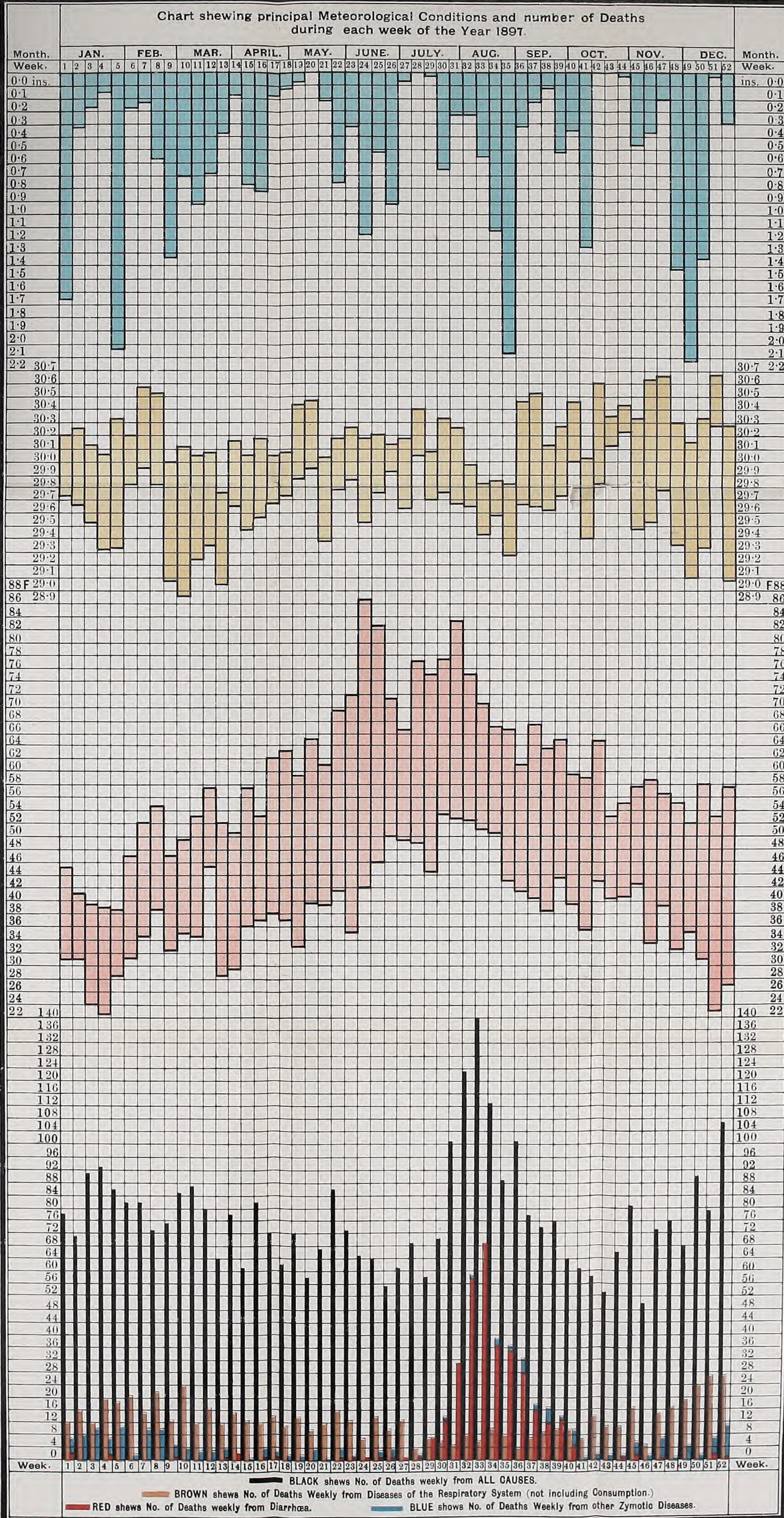
THESE FIGURES REFER TO THE NUMBER OF DEATHS.

RAINFALL.

BAROMETRIC READINGS.

WEEKLY RANGE OF TEMPERATURE.

THESE FIGURES REFER TO THE NUMBER OF DEATHS.









# VITAL STATISTICS.

## POPULATION.

The Registrar General's estimate of the population of the City in the middle of the year 1897 is 231,260. In my report for the previous year I gave reasons for supposing that this figure understates the number of persons living in Bradford, and my estimate based upon the number of houses and the average number of people per house, as ascertained at the last census, gives a population of over 249,000. Since the census of 1891 the number of births has exceeded the number of deaths by 12,262, which number added to the census population of 1891 would make the population during the year under review 228,623 but in the light of past experience it is probable that the population of Bradford has been largely increased by immigration and I am therefore inclined to think that my estimate is more nearly correct than that obtained by a mere consideration of the "natural" increase of population. I admit, however, that there is some uncertainty attaching to this matter and that we shall have no accurate knowledge as to population until the census of 1901. If, however, vital statistics are to be of value in judging of Sanitary Conditions it is essential that the figures upon which the calculations are made should be correct, but accuracy cannot be attained by merely taking a census every ten years and estimating the population for intermediate years. This statement applies not only to Bradford but to every City in the Kingdom. It would be a great help to Statisticians and those engaged in Sanitary work if the census were taken quinquennially instead of decennially.

In calculating the various mortality and other rates for the past year I have adopted as a basis the population as estimated by the Registrar General.

Table I. gives the chief figures in reference to population and mortality rates since 1883.

*TABLE I.—Shewing corrected Population, Birth-rate, and Mortality Rates from 1883—1897.*

YEAR.	Corrected Estimate of Population to middle of each year	ANNUAL RATE PER 100 LIVING.		
		Birth-Rate.	Death-Rate.	Zymotic Rate.
1883	199,214	29·88	18·77	1·5
1884	201,347	30·86	21·13	2·6
1885	203,504	30·55	18·62	1·5
1886	205,684	30·55	20·35	2·3
1887	207,887	29·83	21·44	2·9
1888	210,113	29·82	18·66	1·6
1889	212,364	29·53	21·15	2·9
1890	214,634	29·10	23·21	2·3
1891	216,938	28·64	22·12	2·35
1892	219,262	27·18	17·91	1·46
1893	221,610	27·58	20·90	3·22
1894	223,985	26·60	16·95	1·65
1895	226,384	26·03	19·80	2·47
1896	228,809	25·94	16·77	1·50
1897	231,260	24·55	17·39	2·24



Table II. gives the population of the various Wards. Its density varies from 3.4 persons per acre in Allerton Ward to 91.5 persons per acre in the West Ward.

TABLE II.

WARDS.	Population.	Acreage.	Persons per Acre.
North . . . . .	13,663	372	36.7
South . . . . .	14,028	308	45.5
East . . . . .	16,656	392	42.5
West . . . . .	15,189	166	91.5
Listerhills . . . . .	19,985	390	51.2
Great Horton . . . . .	15,791	1283	12.3
Little Horton . . . . .	16,358	428	38.2
East Bowling . . . . .	17,170	557	30.8
West Bowling . . . . .	18,439	1004	18.3
Exchange . . . . .	5,181	117	44.2
Bradford Moor . . . . .	18,727	674	27.7
Manningham . . . . .	24,018	457	52.5
Bolton . . . . .	9,005	994	9.0
Heaton . . . . .	17,218	879	19.5
Allerton . . . . .	9,832	2815	3.4
CITY TOTAL . . . . .	231,260	10,776	21.4

## MARRIAGES.

Information obtained from Mr. Crowther, the Superintendent Registrar for the Bradford district and from Mr. Helmsley, the Superintendent Registrar for the North Bierley district, shows that the number of marriages contracted during the year ended December 31st, 1897, was 2,149. The annual rate of persons married per 1,000 of the population was 18·4, a diminution of 1·0 per 1,000 upon the rate for 1896. In London the rate was 18·5 per 1,000.

TABLE III.

Periods.	Number of Marriages.	Proportion of Marriages. to Population.
1891	2,171	1 in 99
1892	2,059	1 in 106
1893	1,944	1 in 114
1894	2,035	1 in 110
1895	2,053	1 in 110
1896	2,244	1 in 102
1897	2,149	1 in 107

## BIRTHS.

The births registered during 1897 amounted to 5,678, 2,838 being of males and 2,840 being of females. The birth-rate per 1,000 of the estimated population is 24·55 the lowest birth rate yet recorded in Bradford and diminution of 1·41 per 1,000 upon the extremely low rate for the previous year.

*TABLE IV.*

*Shewing Birth-rates in Cities and Towns of England having a population of over 200,000, during the year 1897.*

Towns in order of magnitude of rates.	Birth-rate per 1000.
Liverpool ... ..	35·3
Salford ... ..	35·1
Sheffield ... ..	34·4
Birmingham ... ..	33·3
Hull ... ..	33·3
Manchester ... ..	33·2
Leeds ... ..	31·6
Newcastle... ..	31·3
33 Large Towns ... ..	30·7
Leicester ... ..	30·6
London ... ..	30·0
Nottingham ... ..	28·9
Bristol ... ..	27·8
Bradford ... ..	24·55

Table V. shews the distribution of births in the municipal Wards; the rate per 1000 of the population varies from 19·8 in Heaton to 31·2 in the South Ward.



## DEATHS.

The deaths from all causes registered during the year 1897 amounted to 4023, of which 2013 were of males and 2010 of females, as compared with a total of 3838 during the previous year. The death-rate per 1000 of the population is therefore 17.39, being an increase of .62 per 1000, upon the rate for 1896. The total death-rate for England and Wales was 17.43, and for the 33 large towns 19.10 per 1000. The London death-rate was 18.19 per 1000.

TABLE VI.

YEAR.	Estimated Population in the middle of each year.	Births.	Deaths.	Annual Rate per 1000 living.	
				Births.	Deaths.
1882	197,103	6225	4142	31.59	21.01
† 1883	199,214	5953	3741	29.88	18.77
1884	201,347	6216	4255	30.86	21.13
1885	203,604	6218	3791	30.65	18.62
1886	205,684	6285	4187	30.55	20.35
1887	207,887	6202	4458	29.83	21.44
1888	210,113	6266	3922	29.82	18.66
1889	212,364	6272	4492	29.53	21.15
† 1890	214,634	6247	4982	29.10	23.21
1891	216,938	6214	4800	28.64	22.12
1892	219,262	5959	3927	27.18	17.91
1893	221,610	6112	4632	27.58	20.90
1894	223,985	5960	3797	26.60	16.95
1895	226,384	5894	4483	26.03	19.80
† 1896	228,809	5945	3838	25.94	16.77
1897	231,260	5678	4023	24.55	17.39

† In these years, the births and deaths are those registered in 53 weeks.

The classes of disease that shew the greatest variation in mortality during the past two years are indicated in the following table.

TABLE VII.

DISEASES.	Deaths in 1897.	Deaths in 1896.	Increase or Decrease.
Diarrhoea .. .. .	343	70	+ 279
Phthisis and other Tuberculous Diseases .. .. .	513	416	+ 97
Brain Disease .. .. .	375	286	+ 89
Old Age... .. .	238	184	+ 54
Enteritis .. .. .	87	57	+ 30
Premature Birth .. .. .	122	107	+ 15
Cancer .. .. .	188	182	+ 6
Atrophy and Debility... .. .	140	145	- 5
Convulsions .. .. .	143	152	- 9
Scarlet Fever .. .. .	9	24	- 15
Bronchitis .. .. .	366	382	- 16
Heart Disease .. .. .	313	335	- 22
Measles .. .. .	77	105	- 28
Pneumonia .. .. .	272	304	- 32
Whooping Cough .. .. .	42	105	- 63

It will be seen that there is an increase of 279 deaths from diarrhoea upon the total for 1896, an increase shown chiefly in the prevalence of this disorder in children under twelve months of age. This melancholy fact is explained by the comparatively long prevalence of the hot weather during July and August. Reference to Appendix I., which gives the temperature of the ground at depths of 1 foot and 4 feet respectively shews that diarrhoea does not exist in an epidemic form until the 4-foot thermometer reaches 56° F. This is quite in accord with the

well-known fact that at a low temperature soil polluted with organic material does not form so favourable a medium for the growth of deleterious micro-organisms as at higher temperature. In districts, the soil of which is polluted by sewage or other organic material, diarrhœa in an epidemic form is always present during or following on a prolonged hot season.

The other class of diseases which shows a serious increase, viz. 97, on the total for the previous year is that of Tuberculous diseases. Many of those who succumb to Tuberculosis are infants brought up on cow's milk and evidently infected by their food. It is a matter for regret that the regulation of dairies and cowsheds outside the city boundaries is not under the authority of the community which consumes the milk produced. I am strongly of opinion that with proper ventilation of cow-sheds and the separation of the tuberculous from the non-tuberculous animals, milk could be produced free from the germs of tuberculosis.

TABLE VIII.

*Comparative Table shewing the Estimated Population, Birth-rate, Death-rate, and Infantile Death-rate in each of the Thirteen largest towns of England and Wales (those having a population of over 200,000) for the year 1897.*

	Estimated Population to middle of 1897.	Birth-rate.	Death-rate.	Zymotic Rate.	Deaths of Infants to 1000 Births.	Persons to an Acre.
London ... ..	4,463,169	30·6	18·2	2·58	159	59·8
Manchester ...	534,299	33·2	23·1	3·81	195	41·4
Liverpool ...	633,078	35·3	24·4	3·83	200	47·8
Birmingham .	505,772	33·3	21·6	3·88	214	39·8
Leeds ... ..	400,472	31·6	19·9	2·80	190	19·0
Sheffield ...	351,848	34·4	21·2	3·49	198	17·9
Bristol ... ..	232,242	27·8	17·2	1·83	149	49·7
Nottingham ...	232,934	28·9	18·8	2·81	206	21·2
<b>Bradford</b>	<b>231,260</b>	<b>24·55</b>	<b>17·39</b>	<b>2·24</b>	<b>179</b>	<b>21·4</b>
Hull ... ..	225,045	33·3	18·6	3·25	181	27·4
Newcastle ...	217,555	31·3	19·1	2·09	178	40·5
Salford ... ..	213,190	35·1	23·9	5·50	219	41·2
Leicester ...	203,599	30·6	17·7	3·13	205	23·7

### Mortality in the Wards.

Tables IX. gives the mortality in the various wards. The rates vary from 12·8 and 13·0 in Bolton and Heaton to 23·5 and 25·5 per 1000 in the Exchange and South Wards respectively.



TABLE IX.

*Shewing the Mortality Rates in the various Wards.*

WARDS.	Total death-rate per 1000 living.
North .. .. .	18·8
South .. .. .	23·5
East .. .. .	15·2
West ... .. .	17·6
Listerhills ... .. .	13·5
Great Horton ... .. .	16·0
Little Horton ... .. .	17·1
East Bowling ... .. .	20·2
West Bowling ... .. .	18·0
Exchange ... .. .	25·5
Bradford Moor ... .. .	19·2
Manningham ... .. .	17·8
Bolton .. .. .	12·8
Heaton ... .. .	13·0
Allerton ... .. .	15·6
CITY TOTAL ... .. .	17·39

### Ages at Death.

INFANTILE MORTALITY.—The number of deaths of infants under twelve months of age is 1019 giving an infantile mortality rate of 179 per 1000 births. The mortality of infants under one year of age varied amongst the towns of the Country from 131 per 1000 births in Huddersfield to 262 in Preston.

The following table gives the principal causes of infant mortality.

TABLE X.

*Rates of Mortality of Children under 1 year of age, from Chief Infantile Diseases per 1000 Births.*

	1865.		1866.		1867.	
	Deaths.	Rate per 1000 Births.	Deaths.	Rate per 1000 Births.	Deaths.	Rate per 1000 Births.
From all Causes	1197	203	849	142	1016	179
Lung Diseases ...	186	31	159	26	143	25
Convulsions ...	197	33	121	20	110	19
Atrophy and Debility ...	166	28	125	21	121	21
Premature Birth.	125	21	106	17	122	21
Diarrhoea ... ..	246	42	50	8	248	43
Whooping Cough	42	7	49	8	21	4
Tuberculous Disease ...	31	5	39	6	31	5
Measles ... ..	3	0.5	23	3	18	3

In the wards the infant mortality varies from 97 per 1000 births in Bolton Ward to 280 in the Exchange Ward.

TABLE XI.

*Shewing number of Deaths of Infants under 1 year of age and the Death-rate per 1000 Births in each Ward.*

WARDS,	Deaths of Infants under 1 year of age.	Death-rate per 1000 Births.
North ... ..	67	192
South ... ..	113	258
East ... ..	59	147
West ... ..	74	244
Listerhills ... ..	51	126
Great Horton ... ..	51	137
Little Horton ... ..	89	203
East Bowling ... ..	95	189
West Bowling ... ..	74	164
Exchange ... ..	35	280
Bradford Moor ... ..	100	193
Manningham ... ..	113	183
Bolton .. ...	19	97
Heaton ... ..	50	146
Allerton ... ..	28	120
CITY TOTAL ... ..	1018	179

*TABLE XII.*  
*Seasonal and Infantile Mortality \**

WARDS.	QUARTERS.				Total Deaths	Deaths under 5 years of age.	Percentage of Deaths under 5 years to total deaths.	Percentage of Deaths under 1 year to total births.
	Mar.	June.	Sept.	Dec.				
North... ..	65	50	62	48	225	109	48.4	19.2
South... ..	57	51	103	78	289	162	56.0	25.7
East ... ..	63	54	59	47	223	84	37.6	14.7
West . ... ..	47	45	90	52	234	79	33.7	17.4
Listerhills ... ..	65	56	63	53	237	78	32.9	12.6
Great Horton ...	57	47	59	59	222	73	32.8	13.7
Little Horton ...	66	50	70	60	246	101	41.0	17.8
East Bowling ...	79	59	103	63	304	128	42.1	18.9
West Bowling	65	71	99	56	291	113	38.8	16.4
Exchange ... ..	35	17	39	25	116	51	43.9	28.0
Bradford Moor..	84	72	92	67	315	147	46.6	19.3
Manningham ...	91	90	119	86	386	151	39.1	18.3
Bolton ... ..	29	20	18	34	101	31	30.6	9.7
Heaton ... ..	50	50	57	39	196	59	30.1	11.9
Allerton ... ..	45	28	29	33	135	41	30.3	12.0
Public Institutions	151	135	91	126	503	79	15.7	...
CITY TOTAL...	1049	895	1153	926	4023	1486	36.9	17.9

\* In this table the deaths occurring in the Public Institutions have been deducted from the Wards in which the Institutions are situate and classified together.

TABLE XIII.

*Shewing the proportion of Deaths of Children under 1 year and under 5 in the City of Bradford, during the 20 years 1878-97*

YEARS.	Deaths under 1 year per 1000 Births.	Deaths under 1 year per 100 Deaths at all ages.	Death rate under 5 years per 1000 living at that age.	Death-rate under 5 years per 100 deaths at all ages.
1878	178	25.9	85.7	47.4
1879	152	23.5	74.3	42.4
1880	176	27.2	82.2	48.0
1881	154	25.8	56.4	40.7
1882	174	27.0	71.4	45.9
1883	147	23.4	50.5	36.8
1884	181	34.2	62.1	41.2
1885	144	23.6	49.9	37.7
1886	168	25.1	59.4	41.5
1887	179	24.9	62.0	41.6
1888	153	24.6	50.0	39.0
1889	181	25.3	60.8	42.6
1890	169	21.2	55.8	35.9
1891	181	23.4	57.2	39.0
1892	155	23.5	44.8	37.4
1893	198	26.1	79.5	39.7
1894	144	22.6	59.2	36.1
1895	203	26.6	75.9	39.2
1896	143	22.1	56.2	38.8
1897	179	25.3	64.2	36.9

## Deaths in Public Institutions.

The deaths in the Public Institutions amounted to 503, distributed as follows:—

	Males.	Females.	Total.
Eye and Ear Hospital ... ..	2	—	2
St. Catherine's Home ... ..	—	8	8
Children's Hospital ... ..	20	14	34
City Hospital for Infectious Diseases ... ..	16	8	24
Infirmery ... ..	99	59	158
Workhouse ... ..	165	112	277
	<u>302</u>	<u>201</u>	<u>503</u>

## Infectious Diseases.

The number of deaths attributed to this class of diseases was 518, giving a zymotic death-rate of 2.24 per 1000 of the population. In Table XIV. are given the figures for the past ten years.

TABLE XIV.

*Shewing number of Deaths from Zymotic Diseases in Bradford during the years 1888-1897.*

DISEASES.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	Total in 10 years for each Disease.
Small-pox ... ..	2	1	...	...	4	113	27	...	1	...	148
Measles ... ..	120	113	208	81	62	68	111	17	105	77	962
Scarlet Fever... ..	33	63	46	143	45	71	72	25	24	9	531
Diphtheria ... ..	7	12	8	13	10	19	13	18	12	10	122
Whooping Cough... ..	38	178	50	133	90	97	63	98	105	42	894
Typhus Fever ... ..	...	1	...	2	...	...	...	...	...	...	3
Typhoid Fever ... ..	19	48	31	27	18	48	31	39	28	30	319
Other or doubtful Fevers	7	4	3	5	1	5	1	3	...	1	30
Diarrhœa ... ..	131	205	154	106	91	272	53	301	69	349	1811
Total Zymotic Diseases } each year ... .. }	257	625	500	510	321	713	371	561	514	518	4820

The prevalence of Infectious Disease in Bradford as compared with the thirty-three great towns is shewn in the following table.

TABLE XV.

1897.	No. of Deaths.	Death-rates per 1000 living.	
		Bradford.	33 Large Towns.
Small-pox ... ..	...	0·00	0·00
Measles ... ..	77	0·33	0·55
Scarlatina ... ..	9	0·03	0·18
Diphtheria and Croup	17	0·07	0·31
Whooping Cough	42	0·18	0·41
"Fever" ... ..	31	0·13	0·18
Diarrhoea ... ..	349	1·50	1·24
7 Zymotic Diseases ..	525	2·24	2·87

The mortality from each disease of the infective order is seen in the tables following:—



TABLE XVI.

*Deaths from Measles.*

WARDS.	QUARTERS.								Year 1897.		
	March.		June		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North ... ..	9	1	...	...	...	...	1	..	10	1	11
South ... ..	3	2	...	...	...	...	2	4	5	6	11
East ... ..	1	1	...	...	...	...	1	...	2	1	3
West ... ..	...	...	...	...	...	1	2	..	2	1	3
Listerhills ... ..	..	1	..	...	...	...	..	..	..	1	1
Great Horton ...	4	5	1	...	...	...	...	...	5	5	10
Little Horton ...	..	...	..	...	...	...	...	...	...	...	...
East Bowling ...	1	3	...	...	...	1	...	...	1	4	5
West Bowling ...	1	1	...	1	...	..	...	..	1	2	3
Exchange ... ..	...	...	...	...	...	..	...	3	..	3	3
Bradford Moor...	6	5	...	...	...	...	2	..	8	5	13
Manningham ... ..	...	3	...	1	...	...	...	...	...	4	4
Bolton ... ..	...	2	...	...	...	...	...	...	...	2	2
Heaton ... ..	1	1	...	...	...	...	2	...	3	1	4
Allerton ... ..	1	3	...	...	..	...	..	...	1	3	4
CITY TOTAL ...	27	28	1	2	...	2	10	7	38	39	77

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
18	28	20	5	3	2	1	...	...	...	...	..	77

TABLE XVII.

*Deaths from Whooping Cough.*

WARDS.	QUARTERS.								Year 1897.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
North .. ...	..	..	2	...	...	...	2	..	4	...	4
South ... ..	2	...	1	..	...	1	...	1	3	2	5
East ... ..	2	..	...	...	...	...	...	...	2	...	2
West ... ..	...	...	..	...	...	...	...	..	..	..	...
Listerhills ...	...	..	...	...	...	...	...	...	...	...	..
Great Horton ...	...	...	1	..	1	1	1	..	3	1	4
Little Horton ...	...	...	..	1	1	1	..	..	1	2	3
East Bowling ...	...	..	..	...	...	1	..	3	...	4	4
West Bowling ..	..	...	...	..	3	...	..	2	3	2	5
Exchange .. ...	..	1	...	...	...	...	...	..	...	1	1
Bradford Moor ..	1	...	..	1	..	1	...	4	1	6	7
Manningham ...	1	...	...	1	...	...	...	...	1	1	2
Bolton ... ..	...	1	...	..	1	...	...	..	1	1	2
Heaton ... ..	...	...	...	1	...	2	...	...	...	3	3
Allerton ... ..	...	...	...	...	...	...	...	..	...	...	...
CITY TOTAL ...	6	2	4	4	6	7	3	10	19	23	42

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
21	12	7	1	1	..	..	..	..	..	..	..	42

TABLE XVIII.  
Deaths from Diphtheria.\*

WARDS.	QUARTERS.								Year, 1897.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North... ..	...	...	...	...	...	...	...	...	...	...	...
South... ..	...	...	...	...	...	...	...	...	...	...	...
East ... ..	...	...	...	...	...	...	...	...	...	...	...
West .. ..	...	...	...	...	...	...	...	...	...	...	...
Listerhills ... ..	...	...	...	...	...	...	...	1	...	1	1
Great Horton ..	1	...	...	...	...	...	...	...	1	...	1
Little Horton ...	1	...	...	...	...	...	...	1	1	1	2
East Bowling ..	...	...	...	1	...	...	...	...	...	1	1
West Bowling ..	...	...	...	...	...	...	...	...	...	...	...
Exchange .. ..	...	1	...	...	...	...	...	...	...	1	1
Bradford Moor...	...	...	...	...	...	...	...	...	...	...	...
Manningham ..	...	1	...	...	...	...	...	...	...	1	1
Bolton .. ..	...	...	...	1	...	...	...	...	...	1	1
Heaton ... ..	...	...	...	1	...	...	...	...	...	1	1
Allerton ... ..	...	...	...	...	...	...	...	1	...	1	1
CITY TOTAL ...	2	2	...	3	...	...	...	3	2	8	10

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
...	1	1	1	2	4	...	...	1	...	...	...	10

\* Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XIX.  
Deaths from Scarlet Fever.\*

WARDS.	QUARTERS.								Year, 1897.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North...	...	..	...	...	..	..	...	..	..	..	...
South.	...	...	...	...	...	..	...	...	...	...	...
East ...	...	...	...	...	...	...	...	...	...	...	...
West ...	...	...	...	...	...	...	...	...	...	...	..
Listerhills	...	..	...	...	..	..	...	1	...	1	1
Great Horton	...	...	...	1	...	...	...	...	..	1	1
Little Horton	...	..	...	..	...	...	...	..	...	...	...
East Bowling	...	..	...	...	...	...	...	...	...	...	...
West Bowling	..	...	...	...	...	...	...	...	...	...	...
Exchange	...	1	...	1	...	...	...	...	...	1	1
Bradford Moor	...	...	...	...	..	..	...	...	...	...	...
Manningham	..	1	1	...	..	...	1	...	2	1	3
Bolton	...	...	..	...	..	..	...	...	...	...	...
Heaton	...	1	...	..	1	...	...	...	2	...	2
Allerton	...	1	...	...	..	...	...	...	...	1	1
CITY TOTAL	2	3	..	1	1	...	1	1	4	5	9

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
...	3	...	1	1	4	...	...	..	..	..	..	9

\* Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XX.  
Deaths from Diarrhœa.\*

WARDS	QUARTERS.								Year 1897.			
	March.		June.		Sept.		Dec.					
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.	
North... ..	...	..	...	...	14	9	1	...	15	9	24	
South... ..	...	1	1	...	25	22	1	1	27	24	51	
East ... ..	...	2	...	...	4	6	...	...	4	8	12	
West . . . .	...	..	...	...	18	23	...	1	18	24	42	
Listerhills ... ..	...	...	...	...	6	6	...	1	6	7	13	
Great Horton ... ..	...	...	...	...	4	5	..	...	4	5	9	
Little Horton ... ..	...	...	...	...	16	9	...	1	16	10	26	
East Bowling ... ..	...	...	...	1	13	17	...	...	13	18	31	
West Bowling ... ..	...	1	1	...	11	18	1	...	13	19	32	
Exchange .. ...	1	...	1	...	5	6	..	..	7	6	13	
Bradford Moor ... ..	...	...	1	...	16	9	...	1	17	10	27	
Manningham ... ..	...	1	1	2	24	15	3	2	28	20	48	
Bolton ... ..	...	...	..	..	4	2	...	...	4	2	6	
Heaton ... ..	...	...	...	1	6	3	...	...	6	4	10	
Allerton ... ..	...	...	...	...	2	3	...	...	2	3	5	
CITY TOTAL ...	1	5	5	4	168	153	6	7	180	169	349	
<i>Ages at Death.</i>												
Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
248	52	5	2	..	...	1	1	2	4	...	34	349

\* Deaths in Public Institutions are referred to in the Wards from whence the patients come.

TABLE XXI.

*Deaths from other Zymotic Diseases.*

WARDS.	Influenza.		Erysipelas.		Syphilis.		Rheumatic Fever.		Puerperal Fever.		1897.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
North ... ..	2	..	..	1	1	1	2	..	..	..	7
South ... ..	1	..	..	..	1	3	1	..	..	1	7
East ... ..	..	1	..	..	..	..	1	1	..	..	3
West ... ..	..	..	..	..	1	1	..	1	..	1	4
Listerhills ... ..	..	1	..	..	..	..	..	..	..	1	2
Great Horton ..	1	1	1	1	1	..	1	..	..	2	8
Little Horton ..	..	1	..	..	2	1	1	1	..	..	6
East Bowling ...	..	..	1	..	..	1	1	1	..	..	4
West Bowling ..	1	1	..	..	..	1	1	2	..	2	8
Exchange ... ..	..	..	..	..	2	..	1	..	..	..	3
Bradford Moor ..	1	..	..	..	..	1	..	..	..	..	2
Manningham ..	..	2	1	..	2	2	1	1	..	1	10
Bolton ... ..	..	2	..	..	..	..	..	..	..	..	2
Heaton ... ..	1	2	1	1	1	..	1	2	..	..	9
Allerton ... ..	..	1	..	..	..	..	2	..	..	..	3
CITY TOTAL ...	7	12	4	3	11	11	13	9	..	8	78

\* Deaths in Public Institutions are referred to in the Wards from whence they come.

TYPHOID OR ENTERIC FEVER.—Under the provisions of the Infectious Diseases Notification Act 149 cases of this disease were notified during the year, 30 of which ended fatally. Owing to lack of suitable accommodation for isolation in their own houses 79 of the cases were removed for isolation and treatment to the Fever Hospital. A detailed analysis of the cases is contained in the two following tables.

TABLE XXII.

*Shewing number of cases, deaths and case-mortality from Typhoid Fever during the year 1897.*

AGE.	CASES.		DEATHS.		Death-rate per cent.
	Males.	Females.	Males.	Females.	
Under 5	3	...	...	...	...
5-10	9	8	2	1	17·6
10-20	24	25	3	2	10·2
20-30	25	12	7	2	24·3
30-40	18	8	2	3	19·2
40-50	6	5	3	1	36·3
50 and upwards	5	1	3	1	66·6
ALL AGES	90	59	20	10	20·1

TABLE XXIII.

*Shewing number of deaths and percentage mortality from Typhoid Fever during each of the last 10 years.*

YEARS.	No. of Deaths.	Deaths per 100 cases notified.
1888	19	18·1
1889	48	28·7
1890	31	21·5
1891	27	17·2
1892	18	22·5
1893	48	22·3
1894	31	22·0
1895	39	22·0
1896	29	19·0
1897	30	20·1

## TABLE XXIV.

*Notification of Typhoid Fever in different Streets, 1897.*

## NORTH WARD.

- |                        |              |
|------------------------|--------------|
| 1, King Charles Street | 1, Mab Court |
| 1, Loom street         |              |

## SOUTH WARD.

- |                       |                    |
|-----------------------|--------------------|
| 1, Banner Street      | 1, Leeds Road      |
| 1, Barkerend Road     | 1, Malvern Street  |
| 1, Birk Street        | 1, Robert Street   |
| 1, Clayton Place      | 1, Southend Street |
| 1, Edderthorpe Street | 1, Seymour Street  |
| 1, Harris Street      | 2, Thursby Street  |
| 2, Hubert Street      |                    |

## EAST WARD.

- |                      |                 |
|----------------------|-----------------|
| 1, Cordingley Street | 1, Nuttall Road |
| 1, Harrogate Street  | 1, Otley Road   |
| 1, Hillside Road     |                 |

## WEST WARD.

- |                   |                     |
|-------------------|---------------------|
| 5, Infirmary      | 1, Longlands Street |
| 1, Clayton Street | 1, Northop Square   |
| 1, Dyson Street   | 1, Summer Street    |
| 2, Jewett Street  | 1, White Abbey Road |

## LISTERHILLS WARD.

- |                     |                         |
|---------------------|-------------------------|
| 3, Bower Street     | 1, Milton Place         |
| 1, Carlton Street   | 1, Nazeby Street        |
| 1, Cavendish Street | 1, Great Russell Street |
| 1, Duncan Street    | 1, Tumbling Hill Street |
| 1, Merton Road      |                         |

## GREAT HORTON WARD.

- |                  |                      |
|------------------|----------------------|
| 1, Bakes Street  | 1, Kingswood Place   |
| 1, Bowker Street | 1, Pleasant Street   |
| 1, Gale Street   | 1, Stephenson Street |
| 1, High Street   | 1, Union Road        |
| 1, Legrams Lane  |                      |

## LITTLE HORTON WARD.

- |                       |                     |
|-----------------------|---------------------|
| 1, Belloe Street      | 2, Manchester Road  |
| 1, Copley Street      | 2, Southfield Lane  |
| 3, Grafton Street     | 2, St. James Street |
| 1, Holme Street       | 1, Workhouse        |
| 2, Little Horton Lane |                     |



## EAST BOWLING WARD.

- |                   |                   |
|-------------------|-------------------|
| 1, Lower Lane     | 1, Vere Street    |
| 1, Ludlam Street  | 1, Wakefield Road |
| 2, Saville Street |                   |

## WEST BOWLING WARD.

- |                       |                      |
|-----------------------|----------------------|
| 1, Bombay Street      | 1, Round Street      |
| 2, Cotewall Road      | 1, Rydal Street      |
| 1, Donisthorpe Street | 1, Smiddles Lane     |
| 1, Faxfleet Street    | 2, Springmill Street |
| 2, Manchester Road    | 1, Thirkhill Street  |
| 1, Mark Street        |                      |

## EXCHANGE WARD.

- |                  |              |
|------------------|--------------|
| 1, George Street | 1, Park Gate |
| 1, Kirkgate      |              |

## BRADFORD MOOR WARD.

- |                     |                     |
|---------------------|---------------------|
| 1, Acton Street     | 2, Firth Street     |
| 2, Almond Street    | 1, Harrison Street  |
| 2, Amberley Street  | 1, Juno Street      |
| 1, Arkwright Street | 1, Peace Street     |
| 1, Back Lane        | 1, Rochester Street |
| 3, Cartmel Street   | 1, School Square    |
| 1, Ebenezer Street  |                     |

## MANNINGHAM WARD.

- |                      |                   |
|----------------------|-------------------|
| 1, Binbrook Street   | 1, Lumb Lane      |
| 1, Bingley Street    | 1, Oakwood Street |
| 1, Clarendon Terrace | 2, Oswald Street  |
| 1, Denby Street      | 2, Rosse Street   |
| 1, Four Lane Ends    | 1, Toller Lane    |
| 1, Kensington Street | 1, Whetley Hill   |

## BOLTON WARD.

- |                  |                              |
|------------------|------------------------------|
| 3, Hebden Street | 1, Midland Road, Frizinghall |
| 2, South Parade  |                              |

## HEATON WARD.

- |                    |                        |
|--------------------|------------------------|
| 1, Chassum Street  | 1, Paul's Street       |
| 2, Farfield Street | 1, Springcliffe Street |
| 1, Fairfield Road  | 2, Victor Terrace      |
| 1, Manor Terrace   |                        |

## ALLERTON WARD.

- |                    |                   |
|--------------------|-------------------|
| 1, Cemetery Road   | 1, Grange Terrace |
| 2, Daisy Hill Lane | 1, Munby Street   |
| 1, Duckworth Lane  | 1, Upper Green    |

SMALLPOX.—There was no case of this disease in Bradford during 1897.

### Notification of Infectious Diseases.

During the year 710 cases of Infectious disease were notified under the provisions of the Infectious Diseases Notification Act of 1889; this is a considerable decrease upon the number notified during the previous year

TABLE XXV.

MONTH.	1894.	1895.	1896.	1897.
January ... ..	241	103	79	52
February... ..	175	60	65	56
March ... ..	130	48	60	61
April ... ..	126	42	43	41
May ... ..	173	64	50	58
June ... ..	117	36	76	62
July ... ..	118	72	75	60
August ... ..	112	57	71	50
September ...	108	66	91	68
October ... ..	104	113	85	80
November ...	119	18	72	62
December ...	74	62	66	60
	<u>1597</u>	<u>805</u>	<u>833</u>	<u>710</u>

The diseases were constituted as follows :—

	1894.	1895.	1896.	1897.
Scarlet Fever ...	1035	379	397	331
Typhoid Fever ...	141	177	152	149
Typhus Fever ...	—	—	—	—
Smallpox ... ..	196	—	1	—
Continued Fever...	2	—	2	1
Relapsing Fever ...	—	—	—	—
Puerperal Fever...	22	22	18	18
Diphtheria ... ..	49	39	41	28
Membranous Croup	8	17	12	11
Erysipelas ... ..	144	169	210	171
English Cholera...	—	2	—	1
	<u>1597</u>	<u>805</u>	<u>833</u>	<u>710</u>

The Table following gives the number of notified cases of Scarlet Fever, together with the number of deaths, and death-rate for each year since 1870.

TABLE XXVI.—Scarlet Fever.

YEAR.	No. of Deaths.	No. of Notification.	Death-rate per 10,000 living.
1870	241	...	16.93
1871	144	...	9.79
1872	81	...	5.53
1873	47	...	3.00
1874	289	...	17.72
1875	458	...	27.21
1876	143	...	8.23
1877	110	...	6.13
1878	156	...	8.42
1879	184	...	9.45
1880	190	...	9.64
*1881	118	(6 mos) 424	6.41
1882	66	408	3.29
1883	56	352	1.75
1884	33	493	1.54
1885	46	786	2.15
1886	89	1118	4.06
1887	98	1308	4.37
1888	33	407	1.43
1889	63	543	2.68
1890	46	546	1.91
1891	143	1163	6.59
1892	45	944	2.05
1893	71	1445	3.20
1894	72	1035	3.21
1895	25	379	0.11
1896	24	397	1.04
1897	9	331	0.38

\* First year of Notification.

TABLE XXVII.

*Notifications, Deaths, and Death-rate from Scarlet Fever at different Age Periods during 1897.*

AGES.	Notifications.	Deaths.	Deaths per rate 100 notified.
Under 1 year ... ..	3	..	...
1 year and under 2 .. .	11	3	27·27
2 years „ „ 3 .. ...	22	..	..
3 years „ „ 4 .. ...	40	1	2·50
4 years „ „ 5 .. ...	28	1	3·57
5 years „ „ 10... ..	152	4	2·63
10 years „ „ 15... ..	56	...	...
15 years and upwards ... ..	19	...	...
TOTALS ... ..	331	9	2·71

*Shewing the number of Notifications from each Disease during 1897 in the different Wards.*

WARDS.	Cholera.	Smallpox.	Scarlet Fever.	Typhoid Fever.	Typhus Fever.	Diphtheria	* Erysipelas	* Puerperal Fever.	* M'branus Group	* Continued Fever.	Relapsing Fever.	Total.
North ...	...	...	13	3	...	1	12	...	1	...	...	30
South ...	...	...	2	15	...	...	5	1	...	...	...	23
East ...	...	...	12	6	...	...	9	...	...	...	...	27
West ...	...	...	32	13	...	...	19	1	1	...	...	66
Listerhills ..	...	...	28	11	...	2	13	4	...	...	...	58
Great Horton ...	..	...	37	9	...	4	8	2	1	...	...	61
Little Horton ...	...	...	20	15	...	3	12	2	...	...	...	52
East Bowling ...	1	...	10	6	...	3	11	2	...	1	...	34
West Bowling .	...	...	42	14	...	4	16	3	4	...	...	83
Exchange... ..	...	...	1	3	...	1	6	...	...	...	...	11
Bradford Moor	...	...	7	18	...	3	5	...	...	...	...	33
Mannirgham .	...	...	49	14	...	3	24	1	...	...	...	91
Bolton ...	...	...	19	6	...	1	4	1	2	...	...	33
Heaton ...	...	...	50	9	...	...	10	1	1	...	...	71
Allerton ...	...	..	9	7	...	3	17	..	1	...	...	37
CITY TOTALS ...	1	...	331	149	...	28	171	18	11	1	...	710

\* Notification of these diseases brought into force Feb. 1st, 1893.

TABLE XXIX.

*Shewing the Death-rate per 1000, in Bradford, and in each of its 15 Wards from Zymotic Diseases, and from all causes during 1888—1897.*

WARDS.	Seven Principal Zymotic Diseases.										All Causes.									
	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
North ..	1.4	3.0	3.5	1.7	2.2	3.4	1.4	2.1	1.1	2.6	20.1	21.7	24.9	25.1	21.6	23.4	19.0	17.1	20.7	18.8
South ..	2.0	1.8	2.6	2.0	2.1	4.4	2.0	3.7	3.3	6.2	20.1	23.3	25.9	25.3	20.6	25.1	18.9	25.2	19.6	23.5
East ..	0.9	1.3	1.4	1.8	1.9	1.6	1.2	1.3	1.0	1.2	16.2	17.2	18.9	21.6	16.6	17.8	15.5	19.3	16.5	15.2
West ..	1.7	3.7	3.5	2.3	1.5	4.9	2.0	3.6	0.8	2.8	18.0	25.8	27.0	24.8	20.0	23.7	18.6	24.1	18.1	17.6
Listerhills ..	1.1	2.6	1.2	1.3	0.7	1.0	1.4	1.9	0.9	0.7	10.3	18.6	21.2	22.4	18.1	18.6	15.8	17.1	14.3	13.5
Great Horton..	1.1	2.3	0.7	2.7	1.3	2.7	1.5	1.9	1.6	1.7	15.2	18.7	19.0	20.4	17.9	17.5	16.9	19.2	17.2	16.0
Little Horton..	1.6	3.4	2.0	1.5	1.8	2.8	1.8	2.6	2.2	2.3	16.3	15.6	19.2	21.1	19.0	20.3	16.8	18.6	18.3	17.1
East Bowling...	2.6	2.3	4.0	2.5	1.4	3.9	2.9	3.2	2.4	2.3	13.4	23.4	24.1	24.5	17.6	20.3	18.7	22.6	19.9	20.2
West Bowling	3.1	4.1	1.4	2.0	1.8	4.5	1.8	2.4	1.6	2.1	17.8	18.9	18.8	21.9	11.4	21.4	18.3	21.3	18.0	18.0
Exchange ..	1.8	4.6	3.2	1.1	2.5	3.0	1.9	2.3	1.3	3.6	27.5	26.1	28.3	19.4	20.8	22.2	16.0	19.3	10.8	25.5
Bradford Moor	2.4	2.1	2.0	2.1	1.1	2.8	2.1	3.6	1.6	2.6	21.2	20.6	20.4	24.6	17.2	20.3	17.4	20.3	16.6	19.2
Manningham ..	1.1	2.7	1.9	3.1	0.9	3.3	1.8	3.0	1.4	2.4	14.3	17.2	18.7	22.1	17.6	20.2	18.9	19.8	16.3	17.8
Bolton ..	0.5	1.5	1.9	0.7	2.0	2.6	1.0	1.5	0.4	1.3	13.6	14.4	17.9	15.3	14.3	19.7	14.5	14.8	11.8	12.8
Heaton ..	0.5	2.9	1.0	2.3	1.1	2.7	0.9	1.2	0.5	1.2	13.7	15.6	15.8	19.1	14.3	17.4	12.9	15.3	11.8	13.0
Allerton ..	1.2	1.9	1.1	1.7	1.0	3.2	1.3	1.9	1.3	1.0	14.2	14.8	16.6	18.4	15.7	21.2	12.4	16.4	14.1	15.6
CITY TOTAL. ...	1.6	2.65	2.08	2.35	1.46	3.22	1.65	2.47	1.50	2.24	17.15	19.11	20.14	22.12	17.91	20.90	16.95	19.80	16.77	17.39

PHTHISIS.—In the Table following is shewn the number of deaths from Consumption; they amount to 372 in comparison with 366 for the previous year.

TABLE XXX.  
*Death form Phthisis \**

WARDS.	QUARTERS.								Year 1897.			
	March.		June.		Sept.		Dec.					
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.	
North ... ..	5	...	2	3	4	4	5	2	16	9	25	
South ... ..	9	5	4	4	4	1	2	2	19	12	31	
East ... ..	5	3	3	2	3	1	6	3	17	9	26	
West ... ..	6	3	8	10	7	5	7	3	28	21	49	
Listerhills ... ..	2	6	5	2	4	2	2	5	13	15	28	
Great Horton ...	2	1	1	3	4	1	4	1	11	6	17	
Little Horton ...	5	1	1	3	4	...	2	3	12	7	19	
East Bowling ...	1	3	4	3	6	4	3	3	14	13	27	
West Bowling	5	3	6	3	3	3	...	5	14	14	28	
Exchange ... ..	4	4	1	...	3	1	1	1	9	6	15	
Bradford Moor .	3	6	5	6	3	3	7	6	18	21	39	
Manningham ..	5	7	5	8	3	7	3	4	16	26	42	
Bolton ... ..	3	2	1	1	...	...	1	1	5	4	9	
Heaton ... ..	1	3	1	2	1	1	...	1	3	7	10	
Allerton ... ..	2	...	2	1	...	...	1	1	5	2	7	
CITY TOTAL ...	58	47	49	51	49	33	44	41	200	172	372	
<i>Ages at Death.</i>												
Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
..	1	3	2	2	6	13	36	81	89	84	55	372

\*Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XXXI.

*Deaths from other Tuberculous Diseases.\**

WARDS.	Tuberculous Diseases.		Tuberc. Mesenterica.		Hydrocephalus.		1897.		
	M.	F.	M.	F.	M.	F.	M.	F.	Total
North ... ..	5	2	1	2	...	...	6	4	10
South .. ...	4	5	3	2	...	...	7	7	14
East ... ..	...	3	2	...	...	...	2	3	5
West ... ..	1	2	2	...	...	...	3	2	5
Listerhills ... ..	6	7	...	...	...	...	6	7	13
Great Horton ... ..	3	4	...	...	...	...	3	4	7
Little Horton ... ..	4	4	...	...	...	...	4	4	8
East Bowling ... ..	8	6	...	2	...	1	8	9	17
West Bowling .. ...	4	5	...	...	...	...	4	5	9
Exchange ... ..	2	3	...	1	...	...	2	4	6
Bradford Moor ... ..	2	1	6	...	...	...	8	1	9
Manningham ... ..	12	4	1	...	...	...	13	4	17
Bolton ... ..	1	1	...	1	...	...	1	2	3
Heaton ... ..	8	4	...	...	...	...	8	4	12
Allerton ... ..	5	2	...	...	...	...	5	2	7
CITY TOTAL ... ..	65	53	15	8	...	1	80	62	142

\*Deaths in Public Institutions are referred to in the Wards  
from whence the patients came.

BRONCHITIS, PNEUMONIA AND PLEURISY.—These three chief diseases of the respiratory organs accounted for 650 deaths, 236 of which were those of children under 5 years of age. The respiratory death-rate was equal to 2·81 per 1000 of the population.



CANCER.—Table XXXII gives the number of deaths attributed to cancerous or other forms of malignant growths. There is seen to be a slow though steady increase in this class of disease.

TABLE XXXII.

*Synopsis of Deaths from Cancer during the Years 1888-97.*

	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Total No. of Deaths ...	129	137	129	142	159	129	146	182	182	188
Males ... ..	28	50	52	44	52	40	44	60	64	58
Females ... ..	101	87	77	98	107	89	102	122	118	130

VIOLENCE.—The deaths from violence amounted to 382, 21 of which were of children under 5 years of age. Of these deaths 42 were due to fractures and contusions, 21 to burns or scalds, 9 to accidental suffocation.

### Inquests.

Two hundred and twenty-eight (228) inquests were held by the City Coroner during the year, 56 of which were on children under 5 years of age.

### Uncertified Deaths.

The deaths of 49 persons were registered without Certification by a Medical Practitioner or Coroner, being 1·2 per cent. of the total deaths, the average percentage of uncertified deaths for the 33 great towns being 1·3 per cent.

## TABLE XXXIII.

Analysis of the Vital and Mortal Statistics of Thirty-three of the Largest English Towns during the Year 1897.

TOWNS.	Estimated Population middle of 1897.	Births.	Deaths.	Annual Rate per 1000 living.			Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Typhoid Fever.	Deaths of Children under 1 year of age to 1,000 Births.	Rate per cent. of Uncertified Deaths.
				Births.	Deaths.	Principal Zymotic Diseases.									
33 Towns ... ..	10,992,524	336,740	209,412	30.7	19.1	2.87	31,479	18	6,049	1,967	3,417	4,453	1,958	177	1.3
32 Provincial Towns	6,529,355	203,122	128,469	31.2	19.7	30.6	19,954	2	4,120	1,187	1,156	2,611	1,365	189	1.7
London ... ..	4,463,169	133,618	89,943	30.0	18.2	2.58	11,525	16	1,929	780	2,261	1,842	593	159	0.6
West Ham ... ..	273,682	8,779	4,273	32.2	15.7	2.62	714	..	140	30	101	99	48	172	2.7
Croydon ... ..	121,171	3,015	1,579	25.0	13.1	1.43	173	..	17	12	8	31	9	135	..
Brighton ... ..	121,401	2,986	1,823	24.7	15.1	1.64	198	..	17	12	12	25	22	144	0.8
Portsmouth ... ..	182,585	4,897	2,951	26.9	16.2	2.53	462	..	35	11	28	64	43	168	0.4
Plymouth ... ..	97,658	2,773	1,855	28.5	19.0	2.17	213	..	49	5	13	53	8	185	0.3
Bristol ... ..	232,242	6,430	3,984	27.8	17.2	1.83	425	1	57	18	35	116	47	149	0.9
Cardiff ... ..	170,063	5,279	2,534	31.1	14.9	2.10	372	..	75	17	90	34	21	151	0.9
Swansea ... ..	100,309	2,939	1,583	29.4	15.8	1.36	136	..	45	19	11	42	7	140	1.2
Wolverhampton ...	87,287	3,054	1,919	35.1	22.5	4.22	367	..	46	21	54	38	24	217	0.6
Birmingham ... ..	505,772	16,803	10,889	33.3	21.6	3.88	1,958	..	398	93	147	221	92	214	3.2
Norwich ... ..	110,154	3,354	2,062	30.5	18.8	2.21	243	..	3	11	10	47	32	194	1.5

Leicester	203,599	6,206	3,586	30.6	17.7	3.13	637	...	14	71	73	82	39	358	205	2.4
Nottingham	232,934	6,717	4,363	28.9	18.8	2.81	652	...	48	36	21	113	49	385	206	1.1
Derby	103,291	2,792	1,651	27.1	16.0	1.91	197	...	17	10	9	22	26	113	168	...
Birkenhead	111,249	3,507	2,026	31.6	18.3	2.45	272	..	55	23	26	32	27	109	164	1.1
Liverpool	633,078	22,280	15,384	35.3	24.4	3.83	2,412	...	340	206	126	351	168	1,221	200	3.4
Bolton	121,433	3,942	2,660	32.5	22.0	4.02	486	...	215	23	6	41	25	176	186	0.2
Manchester	534,299	17,708	12,306	33.2	23.1	3.81	2,932	...	629	124	47	300	100	832	195	1.2
Salford	213,190	7,454	5,083	35.1	23.9	5.50	1,168	...	473	61	32	112	66	426	219	1.8
Oldham	145,845	3,793	2,789	26.1	19.2	2.61	378	...	97	20	11	77	20	153	183	0.2
Burnley	106,122	3,151	2,065	29.8	19.5	3.98	420	...	141	5	60	63	19	132	220	1.5
Blackburn	131,330	3,625	2,554	27.7	19.5	3.45	453	...	146	7	8	82	38	172	206	2.2
Preston	115,103	3,659	2,796	31.9	24.4	5.64	648	...	318	5	4	30	35	256	262	3.2
Huddersfield	101,454	2,366	1,659	23.4	16.4	1.50	150	...	27	32	20	21	15	35	131	2.8
Halifax	95,747	2,150	1,574	22.5	16.5	1.39	134	...	48	21	9	9	16	31	140	2.5
BRADFORD	231,260	5,678	4,028	24.55	17.89	2.23	518	...	77	9	10	42	31	349	179	1.2
Leeds	409,472	12,911	8,118	31.6	19.9	2.80	1,140	...	163	94	67	96	80	640	190	0.6
Sheffield	351,848	12,071	7,438	34.4	21.2	3.49	1,222	...	195	90	44	142	110	641	198	2.8
Hull	225,045	7,485	4,166	33.3	18.6	3.25	731	1	24	61	32	50	56	501	181	1.6
Sunderland	142,107	4,905	2,792	34.6	19.7	2.56	363	...	63	11	4	77	38	170	165	1.0
Gateshead	101,070	3,612	1,842	35.8	18.3	2.33	234	...	50	17	8	31	20	108	172	0.7
Newcastle-on-Tyne	217,555	6,791	4,141	31.3	19.1	2.09	452	...	74	21	25	61	34	217	178	0.9

## Disinfecting Station.

The following Table sets forth the work done in connection with the Disinfecting Station during 1897.

Houses fumigated ... .. 427	
Articles disinfected :—	
Beds ... .. 335	Trousers ... .. 48
Mattresses ... .. 129	Drawers ... .. 8
Pillows... .. 580	Dresses ... .. 57
Bolsters .. ... 247	Petticoats... .. 46
Blankets ... .. 502	Hose ... .. 28
Counterpanes . . . . 427	Dressing Gowns ... .. 3
Curtains ... .. 2	Shawls ... .. 90
Carpets... .. 15	Cushions ... .. 59
Rugs ... .. 25	Mats and Sundries ... .. 959
Coats ... .. 97	
Waistcoats .. ... 36	
	TOTAL ... .. 3693

Table A. shews that 578 new houses have been built during the year and certified as fit for habitation in accordance with the Bradford Waterworks and Improvement Act, 1875.

TABLE A.

*Shewing number of New Buildings certified as fit for habitation in each of the Wards, and in the whole City, during the years 1890—97.*

WARDS.	1890.	1891.	1892.	1893.	1894.	1895.	1896	1897.
North ... ..	9	...	64	43	8	11	2	17
South ... ..	104	104	69	35	16	1	6	11
East ... ..	77	20	49	98	54	45	26	66
West ... ..	3	...	3	4	9	...	...	6
Listerhills ...	173	72	30	17	13	3	48	31
Great Horton ...	67	59	37	53	106	134	70	173
Little Horton ..	15	40	42	4	19	21	33	1
East Bowling ...	31	61	48	60	78	15	18	45
West Bowling ...	187	98	59	103	115	58	72	49
Exchange ... ..	2	1	..	...	1	...	7	...
Bradford Moor	85	98	76	110	87	47	55	63
Manningham ...	130	125	116	148	44	67	94	55
Bolton ... ..	41	48	30	20	24	13	7	3
Heaton ... ..	98	31	35	65	18	34	10	36
Allerton ... ..	48	69	16	22	49	47	42	22
CITY TOTAL ..	1070	826	674	782	641	498	490	578

## Insanitary Dwellings.

The following houses having been certified as unfit for habitation were ordered by the City Council to be closed (Building Regulation, XVIII., Bradford Gas and Improvement Act, 1871).

26a, 40 and 50, Duncan Street.

71 and 73, Caledonia Street.

13, Carr Syke, Frizinghall.

27 and 29, Eastbrook Lane

55, George Street.

6, 3, 5, 9, 11, 13, 17 and 19, Dillon St.

1 and 3, Healey Street.

41 and 43, Greenaire Place.

1a, Clarenton Lane.

34, 36 and 38, Wharfe Street.

46, 68 and 70, Longcroft Place.

2 and 4, Violet Court.

2 and 4, Paul Street.

17a, Acre Street.

17, 18, 19, 20, 21, 22, 23, 24, 25, 26,  
27 and 28, Farrar Square.

Also the Cellar dwellings as follows:—

9, Tanhouse Yard.

16, Æolus Place.

13, Duncan Street.

75, George Street.

In four of the houses improvements satisfactory to the City Council were made, and the closing order subsequently revoked.

# REPORT

## OF THE

### CHIEF INSPECTOR OF

### NUISANCES.

TO THE MEDICAL OFFICER OF HEALTH,

SIR,—The following statement shews the nature and amount of work done in the Sanitary Department during the year 1897, including an abstract of work carried out in the previous nine years.

<i>Particulars of work done.</i>	<i>No of Cases.</i>									
	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Drains opened and cleansed ...	1011	1356	1298	1429	1178	1236	1518	1573	1710	1757
Drains provided for premises which had been previously without drainage .. ...	41	17	13	17	32	16	87	29	50	31
Sink drains disconnected from the sewer or otherwise effectually trapped .. ...	345	623	871	632	508	365	565	341	377	275
Street gullies cleansed .. ...	2976	2184	2867	3648	3602	4064	4831	4237	3927	5011
Water conductors provided and down spouts connected with the drains .. ...	828	1062	1251	1143	1127	947	1977	2105	1980	1856
Swine and Swine Styes removed from objectionable situations	45	24	30	29	13	31	20	35	41	18
Fowls, etc., removed from dwelling-houses ... ..	99	162	219	114	127	87	144	113	90	70
Accumulations of offensive matter removed ... ..	187	479	596	689	399	257	317	409	497	513
Filthy Yards and Passages cleansed ... ..	416	484	578	1099	561	481	955	753	808	560
Surface of back yards and defective pavement repaired ...	143	219	270	191	199	287	395	335	433	432
Defective Water Closets repaired	114	236	100	111	137	216	310	549	763	534



<i>Particulars of work done.</i>	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Stagnant water removed from Ashpits ... ..	251	495	376	345	286	285	419	292	295	335
Privies and Ashpits repaired and provided with suitable doors and covers.	1051	1177	957	779	924	964	1623	1698	1505	1428
Foul Urinals repaired ...	30	32	35	20	13	46	32	47	73	33
Filthy Cellar Areas cleansed ...	131	86	81	84	74	57	85	79	80	53
Offensive Manure Pits removed	36	46	48	26	27	27	27	37	29	22
Defective Baths and Wash Basins repaired and disconnected from the drains.	124	35	54	25	59	51	77	49	55	48
Privies and Ashpits removed from objectionable positions and re-constructed on improved sites ... ..	334	370	391	265	196	2	291	47	67	..
New Water Closets erected ...	120	156	179	242	321	507	378	425	492	706
Stagnant Water drained off premises . ... ..	133	130	132	92	83	132	190	238	166	195
Filthy Privies cleansed and lime-washed ... ..	1327	1198	1167	1148	1026	1063	1365	1129	922	705
Houses and Cellar Dwellings whitewashed ... ..	224	295	283	237	258	254	341	203	165	220
Houses and Cellar Dwellings disinfected ... ..	456	636	532	1081	779	1979	1015	451	392	414
Houses closed unfit for human habitation ... ..	...	5	16	13	8	1	20	1	61	37
Cellar Dwellings closed as unfit for human habitation ... ..	2	15	11	18	9	1	16	...	2	4
Workshops closed as unfit for human habitation ... ..	...	..	...	...	..	...	...	3	...	...
General repairs of houses ...	71	42	34	29	42	36	78	149	56	61
Improvement and Ventilation of premises by the removal of out-buildings, etc., from back yards ... ..	172	197	127	81	92	20	54	91	65	72
Abatement of Nuisances from over-crowding of houses, etc.	14	18	41	26	24	24	24	12	18	12
Foul Wells closed . ... ..	...	...	...	...	2	...	2	2	6	2



<i>Particulars of work done.</i>	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Offensive businesses discontinued	1	2	...	2	2	1	...	...	...	...
Foul Mill Dams cleansed... ..	1	1	2	1	1	4	...	2	2	1
Rag Warehouses cleansed ...	21	2	6	..	4	2	2	2	4	4
Tripe Boilers' premises inspected	343	209	88	107	86	112	243	44	475	431
Fellmongers' premises inspected	97	194	10	24	34	12	20	12	21	14
House inspected where infectious diseases have occurred ... ..	399	563	522	1148	1031	2606	2670	703	724	637
Bakehouses inspected ... ..	...	11	33	62	43	34	25	28	24	347
Mills and Workshops Closets inspected ... ..	...	...	..	1613	269	140	509	349	357	534

The above particulars represent only those cases where Statutory Notices have been served and do not include Nuisances prevented or abated on the verbal request of the Inspector.

The number of persons summoned for non-abatement of Nuisances after Notices given is 69.

Eight persons were summoned and convicted for continuing to occupy their houses after the same had been ordered by Notices to be closed as unfit for human habitation.

## Night Scavenging.

During the year the Contractors have according to the returns of the Sanitary Officers, emptied 94,996 ash-pits and removed therefrom 4,537 loads of soil, and 67,990 loads of rubbish, a total of 72,527 loads.

## Burial Grounds.

During the year 167 visits have been made by the Sanitary Officers to the various graveyards within the City, but no irregularities have been observed.

Owing to the utilization of portions of the North and South sides of the Burial ground attached to the Parish Church "St. Peters" for the purpose of restoration and enlargement of that

edifice, by an order of the Home Secretary the remains of 1,035 persons have been removed therefrom and the same re-interred at Undercliffe Cemetery, under the control and supervision of the Medical Officer of Health and Sanitary Officers.

### Dangerous and Unfenced Places.

Three hundred and nineteen places, including houses and other buildings have been reported by the Sanitary Officers as being in a dangerous condition. These have been dealt with and made secure from personal danger, either under the direction of the City Surveyor or the Chief Inspector of Nuisances.

### Public Urinals.

The number of Public Urinals within the City is 40, as against 38 last year.

During the year two Public Urinals have been erected, viz.: One at the junction of Bolling Hall Road and Rooley Lane by permission of the owners of the premises, Messrs Waller & Son, Limited, and one at Grosvenor Road by permission of David Mellor, Esq.

The Public Urinal erected last year at Great Horton Road on land belonging to the trustees of the late George Turner, Esq., has been removed, the site having been acquired for building purposes and the same has since been re-erected on land adjacent thereto by the kind permission of the Great Northern Railway Company who are owners of the land.

### Canal Boats.

There is only one Canal Boat registered within the City, and this, along with 219 others registered with other Authorities, but plying on the Canal within the City, has been examined by the Chief Inspector of Nuisances or his Assistant, Mr. Rhodes, and all boats inspected were free from bilge water, ventilation very good, and suitable provision for the storage of water for domestic use.

In 10 cases the boats were found to be not in accordance with the regulations, 5 having defective cabins, 2 having no certificate of registration on board, 2 being overcrowded in cabins, and 1 not lettered nor having any distinctive mark or marks thereon for the purpose of identification as required by the Registration Authority. The master of one boat was summoned before the Justices for allowing the cabin to be overcrowded, and a penalty of 5s. and 11s. costs was inflicted, failing payment 7 days imprisonment.

The owners of the other defective boats were formally notified by the Chief Inspector of Nuisances to have the boats thoroughly repaired and in future to conform strictly with the regulations, and accordingly the whole of the necessary repairs have since been carried out.

### Common Lodging Houses.

The number of Common Lodging Houses within the City is 41, the same as last year.

The houses contain 192 rooms for sleeping purposes, and are registered to accommodate 1935 persons nightly.

The number of persons who have been accommodated during the year is 454,228, the nightly average being 1,244.

The number of visits paid to these houses during the year is 1903, and their reports shew the houses to have been fairly well conducted.

### Adulteration of Food and Drugs.

During the year ending December, 1897, 265 samples of food have been submitted to the City Analyst by the Food Inspector for analysis. Of these 243 were certified by the Analyst as not adulterated and 22 were found to be adulterated, but the amount of adulteration was trivial and did not warrant proceedings against the offenders beyond being formally cautioned against a repetition of the offence.

The Food Inspector seized and destroyed 6 bags of turnips, 10 boxes of lettuce, 50 herrings, 26 bags of mussels, 6 boxes and 1 kit of haddocks, 27 boxes of hake, 2 bags of whelks, 2 baskets of shrimps, 6 bags of beast offal, 7 bags of cockles, 2 boxes of bream, 32 couples of rabbits, 1 barrel of cod fish, and 1 basket of pears.

The following table shews the nature of articles submitted for analysis :—

*REPORT for Year ending December, 1897.*

NATURE OF FOOD.				Total.	Pure.	Adulterated.	Cautioned.
Milk	...	...	...	173	163	9	9
Butter	...	...	...	10	10	...	...
Lard	...	...	...	11	11	...	...
Milk of Sulphur	...	...	...	6	6	...	...
Flour	...	...	...	2	2	...	...
Sugar	...	...	...	4	4	...	...
Coffee	...	...	...	2	1	1	1
Whisky	...	...	...	6	5	1	1
Gin	...	...	...	1	1	...	...
Sweets	...	...	...	10	10	...	...
Coca Wine	...	...	...	2	2	...	...
Jam	...	...	...	1	1	...	...
Pepper	...	...	...	1	1	...	...
Powdered Ginger	...	...	...	1	1	...	...
Parsley	...	...	...	10	10	...	...
Sage	...	...	...	1	1	...	...
Thyme	...	...	...	1	1	...	...
Tincture of Rhubarb	...	...	...	1	1	...	...
Glycerine	...	...	...	2	2	...	...
Olive Oil	...	...	...	1	1	...	...
Castor Oil	...	...	...	1	1	...	...
Camphorated Oil	...	...	...	1	1	...	...
Cream of Tartar	...	...	...	1	1	...	...
Paregoric	...	...	...	1	...	1	1
Spirits of Nitre	...	...	...	2	1	1	1
Cough Syrup	...	...	...	1	1	...	...
Pink Pills	...	...	...	1	1	...	...
Honey	...	...	...	2	2	...	...
Chewing Gum	...	...	...	9	...	9	9
TOTALS ...				265	243	22	22

## Dairies, Cow-sheds, and Milk-shops

There are at present registered under "the Contagious Diseases (Animals) Act, 1878, 244 Cow-sheds, and 1088 Dairies, Milk-shops, and Purveyors of Milk, as against 246 and 1068 respectively last year.

During the year, 107 applications have been made for registration of premises for the sale of milk, and upon inspection by the Medical Officer of Health or the Dairies and Cow-sheds Inspector 20 of these were found to be suitable and were registered accordingly. Forty-seven milk dealers have during the year voluntarily given up their premises which were found to be unsuitable and have since been registered for other premises more compatible with the proper preservation of the cleanliness of the milk and milk vessels used therein.

Inspection has frequently been made as heretofore of the milk and milk vessels coming into the City by railway and otherwise from places beyond the City boundaries and numerous samples thus delivered have been taken by the Food Inspector and the results (with a few exceptions) shew the milk to have been genuine and of good quality.

Two milk dealers whose milk vessels were found to contain colouring matter for the purpose as alleged of improving the appearance of the milk, appeared before the Sanitary Committee and were cautioned against repeating the offence.

Four milk dealers whose milk vessels were found to be in a dirty condition were formally warned.

The Committee as heretofore have inspected a number of Cow-sheds and Milk-shops, and where the sanitary condition was found to be at all defective instructions were given for the issuing of notices requiring the requisite improvements to be carried out, with the result that 3 Cow-sheds and farm buildings which were in defective sanitary condition have been put into good repair.

Special attention has again been paid to the Fried Fish Shops and Ice Cream makers' premises within the City and many improvements have been effected in regard to cleanliness and general condition of these places and in the manipulation of the commodities produced thereat.

The number of visits and inspections made by the Officers has been as follows :—Cow-sheds, 897; Milk shops, 2990; and milk vessels, 1684.

### Inspection of Meat, Slaughter-houses, Potted Meat and Sausage Manufactories.

There have been 42 seizures and 104 surrenders of unsound meat, fish, and fruit. In three cases the offenders were summoned before the Justices on separate charges for exposing for sale a quantity of rabbits, beef, and veal which were unfit for human food and penalties and costs amounting in the aggregate to £10 4s. were inflicted.

There have been seized and destroyed 4,190 lbs. of beef, 675 lbs. of pork, 230 lbs. of veal, 520 lbs. of mutton, 20 bags of cockles, 4 bags of onions, 32 rabbits, 3 bags of oysters, 38 boxes of smelts, 11 bags of mussels, 12 turkeys, and 3 barrels of herrings.

There have been surrendered and destroyed 6,700 lbs. of beef, 530 lbs. of mutton, 1,276 lbs. of veal, 2,782 lbs. of pork, 5 barrels of codfish, 169 boxes of kippers, 96 bags of mussels, 6 tons of haddocks, 33 baskets of strawberries, 15 barrels of bloaters, 4 baskets of shrimps, 19 couples of rabbits, 1 box of mushrooms, 2 barrels of herrings, 36 boxes of hake, 6 boxes of finnon haddock, 2 bags of whelks, 19 bags of cockles, 26 brace of partridge, and 1 bag of oysters.

The above seizures and surrenders are exclusive of those made by and specified in the Food Inspector's Report.



The number of slaughterhouses under the old regulations is 7, and there are 4 others for which licenses have to be applied for annually.

The number of places at which Potted Meat and Sausages are made is 81, as against 76 last year, and these together with the private slaughter-houses are regularly visited and reported upon by the Inspectors.

The number of visits made during the year has been as follows :—Private Slaughter-houses, 354 ; Potted Meat and Sausage Works, 1,296. The Public Abbatoirs are visited daily.

### Cattle Disease.

During the year there have been five outbreaks of Swine Fever within the City, all of which were duly notified by the Sanitary Department to the Board of Agriculture, whose officers took charge both of the infected animals and premises, and also gave customary notices to the respective owners and occupiers as required by the Orders in Council.

### “ Shop Hours Act ” :—Workshops and Bakehouses.

The number of shops visited by the Inspector during the year is 2146. In 1133 of these young persons were found to be employed and 532 of these shopkeepers failed to comply with Section 4 of the Act by not exhibiting the necessary notice stating the number of hours which a young person may be employed in a shop. Each of these shopkeepers was supplied with the abstract of “ The Shop Hours Act ” and requested to keep the same posted where young persons are employed on their premises.

Seven young persons were found to have been employed over 74 hours in one week. Nineteen young persons were found employed in shops having previously on the same day been employed in a factory or Workshop for the full number of hours



allowed by "The Factory and Workshops Act." Thirteen of these young persons were employed in the Market Hall, Kirkgate.

All the above cases were first offences and in each case the employers were duly cautioned.

The Inspector under "The Shop Hours Act" also visited workshops and bakehouses as follows:—

Bakehouses and Confectioners	...	...	347
Dress and Mantle Makers	...	...	96
Milliners	...	...	58
Blouse Makers	...	...	9
Tailors	...	...	201
Boot and Shoe Makers and Cloggers	...	...	52
Hosiery Knitters	...	...	7
Burlers	...	...	8
Joiners, Cabinet Makers and Wood Carvers	...	...	88
Shoeing and General Smiths	...	...	46
Rag Sorters	...	...	11
Basket Makers	...	...	4
Brush Makers	...	...	11
Plumbers	...	...	10
Tin Plate Workers	...	...	38
Wheelwrights	...	...	12
Brassfounders	...	...	4
Picture Framers	...	...	7
Coopers	...	...	4
French Polishers	...	...	4
Paper Bag Works	...	...	4
File Makers	...	...	4
Wire Workers	...	...	3
Various	...	...	48
Total	...	...	<u>1076</u>

Sixty-eight workshops were found without regulations. These were duly notified to Her Majesty's Inspector of Factories and Workshops.

Forty-two Workshops and 23 Bakehouses were found in a dirty condition. The occupiers of these places were requested to have their premises cleansed and limewashed. In most cases this was immediately done on attention being drawn to the matter.

Ten occupiers of underground premises brought into use as bake-houses since January, 1896, have been requested to discontinue using the premises for the purpose, as required by "the Factory and Workshops Act, 1895."

Six workshops were found without any closet accommodation, and the provision of separate accommodation was found necessary in ten cases.

Five cases were found of persons sleeping in a room which during the day is used as a workshop.

Three cases of overcrowding in workshops have been dealt with satisfactorily.

All nuisances in and adjoining workshops have been referred to the Chief Inspector.

Yours obediently,

JAS. CHAMBERS,

*Chief Inspector.*

# REPORT

## ON

### DESTRUCTOR WORKS.



TO THE MEDICAL OFFICER OF HEALTH,

SIR, — I beg to submit the following report of work done at the various Destructor's during the year 1897.

#### Hamerton Street.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	...	...	17,819	loads.
Market	„	...	1,123	„
Shop	„	...	1,696	„
Total			<u>20,638</u>	<u>loads</u>

As against a total of 23,757 loads destroyed last year.

There has also been destroyed the carcases of 17 beasts, 701 stones of beef, 31 calves, 22 sheep, 58 pigs, 2 goats, 2 deers, 1 horse, 102 tongues, 26 brace of partridges, 13 turkeys, 14 hares, 38 couples of rabbits, 2 bags of tripe, 5 cases of eggs, 98 bags of cockles and mussels, 8 cases of currants, 23 barrels of grapes, 32 boxes of strawberries, 36 boxes of tomatoes, 5 barrels of pears, 10 boxes of lettuce, 859 dogs, 118 cats, 55 beds, and 320 mattresses.

5,060 tons of mortar, and 3,450 loads of clinker have been sold during the year.

As against 4,159 tons, and 2,826 loads last year.

The whole of the cells have been reconstructed by the Horsfall Furnace Syndicate (Limited) on their principle, and are now in full working order.

The whole of the residuals at this Destructor are now being utilized in some form or another.

The fish refuse works continues to be carried out in a satisfactory manner.

### Sunbridge Road.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	...	...	16,488	loads.
Market „	...	...	607	„
Shop „	...	...	596	„
Total	...		<u>17,691</u>	loads

As against a total of 17,507 loads last year.

There has also been destroyed the carcasses of 1 beast, 1 calf, 42 pigs, 19 dogs, 7 beds, and 114 mattresses.

1330 tons of mortar have been sold, as against 1294 tons last year.

### Southfield Lane.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	...	...	11,070	loads.
Shop „	...	...	2	„
Total	...		<u>11,072</u>	loads

As against a total of 9879 loads last year.

There has also been destroyed the carcasses of 1 calf, 1 sheep, 17 pigs, 17 dogs, 7 beds and 75 mattresses.

## Cliffe Road.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	...	...	16,099	loads.
Market „	...	...	440	„
Shop „	...	...	114	„
Total			<u>16,653</u>	loads

As against a total of 12,954 loads last year.

These has also been destroyed the carcasses of 4 pigs, 1 goat, 21 couples of rabbits, 2 fowls, 4 tons of turnips, 3 tons of beans, 73 dogs, 92 cats, 15 beds, and 141 mattresses.

1513 tons of mortar have been sold, as against 17 tons last year.

A clinker crushing machine is now being erected at Cliffe Road Destructor, and it is expected that the whole of the residuals will shortly be utilized in various forms.

Yours obediently,

JOHN McTAGGART.





# TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS,

Coming to the knowledge of the Medical Officer of Health, during the year 1897, in the Urban Sanitary District of Bradford, classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics.  (a)	POPULATION AT ALL AGES.		Registered Births.  (d)	Aged under 5 or over 5  (e)	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.													NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.											
	Census 1891.  (b)	Estimated to middle of 1897.  (c)			1	2	3	4	5	6	7	8	9	10	11	TOTALS.	1	2	3	4	5	6	7	8	9	10	11	TOTALS.	
Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	TOTALS.							
North ... ..	12783	13663	348	Under 5 ... .. 5 and upwards	...	6 7	...	1 1	...	...	...	...	...	...	1 11	8 22	...	6 6	...	...	...	...	...	...	...	...	...	6 9	
South (H) ... ..	13124	14028	438	Under 5 ... .. 5 and upwards	...	...	2	...	...	...	14	...	...	1	...	2 21	...	...	...	...	...	1 6	...	...	...	...	...	1 6	
East ... ..	15583	16656	401	Under 5 ... .. 5 and upwards	...	5 7	...	...	...	...	6	...	...	...	...	6 21	...	1 3	...	...	...	...	...	...	...	...	...	1 6	
West ... ..	14216	15189	303	Under 5 ... .. 5 and upwards	...	11 21	...	1	...	...	13	...	...	1	...	13 53	...	10 16	...	...	...	...	...	...	...	...	10 28		
Listerhills ... ..	18696	19985	402	Under 5 ... .. 5 and upwards	...	7 21	...	...	...	2 9	...	...	...	...	...	9 49	...	4 17	...	...	...	1 8	...	...	...	...	...	5 25	
Great Horton ... ..	14768	15791	371	Under 5 ... .. 5 and upwards	...	11 26	1 3	1	...	...	9	...	...	2	...	14 47	...	8 16	...	...	...	...	2	...	...	...	...	8 18	
Little Horton ... ..	15306	16358	437	Under 5 ... .. 5 and upwards	...	6 14	1 2	...	...	...	15	...	...	2	...	8 44	...	6 11	1	...	...	...	6	...	...	...	...	6 18	
East Bowling ... ..	16068	17170	502	Under 5 ... .. 5 and upwards	...	1 9	1 2	...	...	...	6	1	...	2	1	2 32	...	...	5	2	...	...	3	...	...	1	...	...	
West Bowling ... ..	17250	18439	451	Under 5 ... .. 5 and upwards	...	12 30	...	4	...	...	14	...	...	3	...	17 66	...	4 23	...	...	...	...	9	...	...	...	...	4 32	
Exchange ... ..	4846	5158	125	Under 5 ... .. 5 and upwards	...	...	1	...	...	...	3	...	...	...	2 4	3 8	...	1 1	1	...	...	...	2	...	...	...	...	2 3	
Bradford Moor ... ..	17520	18727	516	Under 5 ... .. 5 and upwards	...	3 4	...	...	...	...	18	...	...	...	...	3 30	...	2 3	...	...	...	...	8	...	...	...	...	2 11	
Manningham ... ..	22469	24018	615	Under 5 ... .. 5 and upwards	...	13 36	...	...	...	...	14	...	...	1	...	15 76	...	8 24	...	...	...	...	4	...	...	...	...	8 28	
Bolton ... ..	8425	9005	194	Under 5 ... .. 5 and upwards	...	10 9	...	1 1	...	1 5	...	...	...	1	...	12 21	...	5 4	...	...	...	1 4	...	...	...	...	...	6 9	
Heaton ... ..	16108	17218	342	Under 5 ... .. 5 and upwards	...	15 35	...	...	1	...	9	...	...	1	...	16 55	...	8 26	...	...	...	...	5	...	...	...	...	8 31	
Allerton ... ..	9199	9832	233	Under 5 ... .. 5 and upwards	...	4 5	...	1	...	...	7	...	...	...	2 15	7 30	...	2 2	...	1	...	...	4	...	...	...	...	3 6	
CITY TOTALS ...	216361	231260	5678	Under 5 ... .. 5 and upwards	...	104 227	4 24	9 2	...	4 145	...	1	...	18	1 157	135 575	...	65 157	1 3	1 1	...	3 76	...	...	...	1	...	70 241	

(H) Indicates Locality of Hospitals for Infectious Diseases.





# TABLE OF DEATHS DURING THE YEAR 1897,

In the Urban Sanitary District of Bradford, classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics.  (a)	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.							(i)	MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																						
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upw'ds. (h)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
									Small-pox. (j)	Scarlatina. (k)	Diphtheria. (l)	Membranous Croup. (m)	FEVERS. (n)					Typhus. (o)	Enteric or Typhoid. (p)	Continued. (q)	Relapsing. (r)	Puerperal. (s)	Cholera. (t)	Erysipelas. (u)	Measles. (v)	Whooping Cough. (w)	Diarhoea and Dysentery. (x)	Rheumatic Fever. (y)	Phthisis. (z)	Bronchitis, Pneumonia and Pleurisy. (aa)	Heart Disease. (ab)
North ... ..	225	67	42	5	6	65	40	Under 5 ... .. 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	10	4	23	...	1	17	...	...	...	54	109	
South † ... ..	313	113	54	11	17	78	40	Under 5 ... .. 5 and upwards	...	3	1	1	...	...	...	...	...	...	...	10	5	48	...	...	24	...	...	1	74	167	
East ... ..	223	59	25	5	9	70	55	Under 5 ... .. 5 and upwards	...	...	...	1	...	2	1	...	...	...	...	3	2	10	...	2	11	...	...	...	55	84	
West † ... ..	402	74	35	17	39	175	62	Under 5 ... .. 5 and upwards	...	...	...	1	...	1	...	...	...	...	...	3	...	35	...	1	24	...	...	3	42	109	
Listerhills ... ..	237	51	27	7	13	77	62	Under 5 ... .. 5 and upwards	...	...	1	...	...	...	...	...	...	...	...	1	...	8	...	1	14	...	...	1	53	78	
Great Horton ... ..	222	51	22	6	13	67	63	Under 5 ... .. 5 and upwards	...	1	1	...	...	2	...	...	...	2	...	2	9	4	7	...	7	...	...	...	43	73	
Little Horton † ... ..	523	89	26	6	25	177	200	Under 5 ... .. 5 and upwards	...	...	1	...	...	3	...	...	...	...	...	...	3	21	...	...	17	...	...	1	72	115	
East Bowling ... ..	304	95	33	13	14	77	72	Under 5 ... .. 5 and upwards	...	...	1	...	...	...	...	...	...	...	...	1	5	4	30	...	...	20	...	3	63	128	
West Bowling ... ..	291	74	39	9	19	81	69	Under 5 ... .. 5 and upwards	...	...	...	2	...	...	...	...	...	2	...	3	5	29	...	1	14	...	...	4	55	113	
Exchange ... ..	116	35	16	4	5	27	29	Under 5 ... .. 5 and upwards	...	...	...	...	...	2	...	...	...	...	...	3	1	11	...	...	6	...	...	...	30	51	
Bradford Moor ... ..	315	100	47	10	17	83	58	Under 5 ... .. 5 and upwards	...	...	...	...	...	2	...	...	...	...	...	12	7	26	...	2	34	...	...	1	64	147	
Manningham ... ..	386	113	38	11	27	94	103	Under 5 ... .. 5 and upwards	...	1	...	...	...	3	...	...	...	...	...	1	4	2	42	...	...	21	...	...	3	77	151
Bolton ... ..	101	19	12	3	10	23	34	Under 5 ... .. 5 and upwards	...	...	1	1	...	1	...	...	...	...	...	2	2	5	...	...	5	...	...	...	15	31	
Heaton † ... ..	230	50	39	14	9	48	70	Under 5 ... .. 5 and upwards	...	1	...	...	...	...	...	...	...	...	...	1	5	3	11	...	1	15	...	2	49	89	
Allerton ... ..	135	28	13	5	8	27	54	Under 5 ... .. 5 and upwards	...	...	1	...	...	...	...	...	...	...	...	4	...	2	...	7	...	...	...	2	26	41	
CITY TOTALS ... ..	4023	1018	468	126	231	1169	1011	Under 5 ... .. 5 and upwards	...	5	5	5	...	30	1	...	8	...	5	74	42	308	...	9	236	3	...	21	772	1486	
PUBLIC INSTITUTIONS.																															
Eye and Ear Hospital (West) ...	2	...	...	...	...	2	...	Under 5 ... .. 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	
St. Catherine's Home (West) ...	8	...	...	...	...	7	1	Under 5 ... .. 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	1	...	...	...	5	8	
Children's Hospital (Heaton) ...	34	9	21	4	...	...	...	Under 5 ... .. 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	1	...	2	...	1	9	1	...	3	13	30	
Fever Hospital (South) ... ..	24	...	5	3	6	10	...	Under 5 ... .. 5 and upwards	...	3	1	1	...	12	...	...	...	...	1	...	...	...	...	2	...	...	...	...	...	5	
Infirmary (West) ... ..	158	15	15	12	19	76	21	Under 5 ... .. 5 and upwards	...	...	...	1	...	1	...	...	...	...	...	...	2	...	...	11	...	...	3	13	30		
Workhouse (Little Horton) ...	277	11	3	1	15	114	133	Under 5 ... .. 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	6	1	41	...	31	27	...	...	13	14	
TOTAL DEATHS IN PUBLIC INSTITUTIONS.	503	35	44	20	40	209	155	Under 5 ... .. 5 and upwards	...	3	1	2	...	13	...	...	...	...	1	...	1	...	1	21	1	...	6	39	79		
THE SUBJOINED NUMBERS HAVE ALSO TO BE TAKEN INTO ACCOUNT IN JUDGING OF THE ABOVE RECORDS OF MORTALITY.																															
Deaths occurring outside the district among persons be- longing thereto.	38	...	...	...	...	34	4	Under 5 ... .. 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	2	4	...	...	...	28	38	
Deaths occurring within the district among persons not belonging thereto.	34	2	4	...	4	18	6	Under 5 ... .. 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	3	2	...	...	4	3	6	







TABLE C.—ENTERIC FEVER.

*Showing Admissions, Deaths, and Percentage Mortality for  
the Year 1897.*

AGE.	MALES.		FEMALES.		TOTAL.		
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted	No. Died.	Death Rate.
Under 5	2	...	...	...	2	...	...
5—10	4	...	5	...	9	...	...
10—15	5	...	5	...	10	...	...
15—20	7	1	10	1	17	2	11.7
20—25	11	3	5	1	16	4	25.0
25—30	3	...	2	...	5	...	...
30—35	9	1	...	...	9	1	11.1
35—40	...	...	1	...	1	...	...
40—50	4	3	1	1	5	4	80.0
TOTAL ...	45	8	29	3	74	11	14.8

TABLE D.

*Showing Number of Cases admitted during each month of 1897.*

1897.	Scarlet Fever.			Enteric Fever.			Other Diseases.			Total Admissions.		
Months.	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total.
January ...	4	12	16	5	3	8	1	...	1	10	15	25
February ...	6	10	16	1	3	4	1	3	4	8	16	24
March ...	13	5	18	...	3	3	...	2	2	13	10	23
April ...	2	3	5	2	3	5	...	...	...	4	6	10
May ...	12	10	22	5	1	6	1	...	1	18	11	29
June ...	6	22	28	1	...	1	...	...	...	7	22	29
July ...	11	18	29	...	1	1	1	...	1	12	19	31
August ...	6	10	16	5	...	5	1	1	2	12	11	23
September ...	12	9	21	5	4	9	1	...	1	18	13	31
October ...	17	15	32	5	2	7	1	..	1	23	17	40
November ...	4	1	5	10	7	17	1	1	2	15	9	24
December ...	13	5	18	6	2	8	1	1	2	20	8	28
TOTAL ..	106	120	226	45	29	74	9	8	17	160	157	317

# SUMMARY.

YEAR.	SMALL-POX.			ENTERIC FEVER.			SCARLET FEVER.			OTHER DISEASES.			TOTALS.			FROM 1872 TO 1897.	
	Cases.	Deaths.	Death-rate per 100	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Aggregate No. of days spent in Hospital.	Average No. of days for each Patient.
1872	63	9	9.5	48	9	18.7	14	...	...	37	6	16.2	102	21	13.01	4,546	28
1873	94	15	16.0	54	16	20.7	10	1	5.2	36	7	18.9	203	20	14.28	6,211	30½
1874	249	48	19.27	51	11	21.56	58	6	10.34	53	12	22.6	412	76	18.44	11,715	28½
1875	20	2	10.0	44	6	13.59	103	19	18.4	37	3	8.1	204	30	13.59	6,275	30½
1876	12	...	.	40	5	12.5	35	9	26.0	26	5	19.2	113	19	18.8	2,876	27¼
1877	19	4	21.05	65	13	20.0	72	9	12.5	27	8	29.6	183	34	18.5	5,579	31½
1878	5	1	20.0	55	13	23.6	148	17	11.5	27	3	11.1	237	34	14.3	9,263	39
1879	8	...	.	24	3	12.5	159	14	8.8	23	4	17.39	214	21	9.8	8,414	39
1880	2	1	50.0	60	8	13.3	248	38	15.3	54	7	12.9	364	54	14.8	13,142	36¼
1881	21	2	9.5	61	7	11.5	317	42	13.2	27	...	...	426	51	11.97	16,773	37¾

1882	26	3	8.8	88	17	19.3	213	31	14.5	39	5	12.8	366	56	15.32	14,706	40
1883	5	...	...	119	17	14.2	233	17	7.2	23	2	8.6	375	36	9.6	15,949	42½
1884	3	...	..	93	17	18.2	237	11	4.6	29	4	13.7	362	32	8.8	14,215	39½
1885	28	2	7.14	89	6	6.74	456	19	4.16	23	8	34.7	596	35	5.89	21,391	36
1886	4	..	...	83	8	9.63	625	29	4.64	14	2	14.3	725	39	5.37	29,305	40½
1887	3	...	...	79	7	8.86	830	21	2.27	9	5	55.5	921	33	3.58	38,609	42½
1888	16	2	12.5	57	6	10.53	283	12	4.24	11	1	9.9	367	21	5.72	16,479	46
1889	9	1	11.11	90	26	28.89	355	40	11.27	36	6	16.67	490	73	14.90	21,315	43½
1890	..	...	...	59	11	18.64	380	22	5.78	43	12	27.90	484	45	9.30	19,940	41½
1891	...	...	...	76	15	19.6	780	83	10.6	39	10	25.6	897	108	12.04	39,838	44
1892	25	4	16.6	41	11	26.8	587	27	4.6	32	7	21.8	685	49	7.2	29,101	42½
1893	935	100	10.6	11	4	36.3	228	17	7.8	12	1	8.3	1186	122	10.2	34,203	28.8
1894	...	...	...	42	8	19.0	525	30	5.7	16	...	..	583	38	6.5	27,124	40.5
1895	...	...	...	97	20	20.6	250	16	6.4	28	9	32.14	375	45	12.0	17,331	46.21
1896	...	...	...	77	15	19.4	248	14	5.6	21	6	28.5	346	35	10.1	17,368	50.1
1897	...	...	...	74	11	14.8	226	5	2.21	17	8	47.05	317	24	7.5	14,549	45.8



## APPENDIX I.

*Mean Daily Temperature of the Earth at depths of 1 foot and 4 feet and daily number of Deaths from Diarrhoea from July 15th to October 31st, 1897.*

DATE.		Ground Temperature in degrees Fahrenheit.		Number of Deaths from Diarrhoea.
		1 Foot.	4 Feet.	
July	15	58	52½	...
„	16	58½	52½	...
„	17	59	53	...
„	18	58½	53½	...
„	19	58½	53½	1
„	20	58½	53½	
„	21	58½	53½	1
„	22	58½	53½	3
„	23	59	54	2
„	24	59	54	3
„	25	59	54	2
„	26	59	54	1
„	27	58½	54½	1
„	28	58½	54½	1
„	29	58	54½	1
„	30	58½	54½	4
„	31	58½	54½	3
August	1	60	55	4
„	2	60½	55	5
„	3	61	55	4

## APPENDIX I. —continued

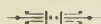
DATE.	Ground Temperature in degrees Fahrenheit.		Number of Deaths from Diarrhœa.
	1 Foot.	4 Feet.	
August 4	61½	55½	4
„ 5	61½	55½	1
„ 6	61½	55½	9
„ 7	61½	55½	8
„ 8	60½	56	6
„ 9	60	56	10
„ 10	60	56	10
„ 11	60	56	7
„ 12	60	56	9
„ 13	59½	56	10
„ 14	58½	56½	10
„ 15	58½	56½	16
„ 16	57½	56½	8
„ 17	58	56½	8
„ 18	58	56½	9
„ 19	58	56½	11
„ 20	57½	56	7
„ 21	57½	56	5
„ 22	57	56	7
„ 23	57	56	3
„ 24	56½	56	3
„ 25	57	56	7
„ 26	57½	56	5
„ 27	57½	56	7

## APPENDIX I.—continued.

DATE.	Ground Temperature in degrees Fahrenheit.		Number of Deaths from Diarrhœa.
	1 Foot.	4 Feet.	
August 28	57	56	6
„ 29	57	56	3
„ 30	57	56	4
„ 31	57	56	8
September 1	56½	56	4
„ 2	56	56	6
„ 3	56	56	2
„ 4	55	56	7
„ 5	54	56	5
„ 6	54	56	5
„ 7	54	55½	5
„ 8	53½	55	2
„ 9	53½	55	5
„ 10	53½	55	1
„ 11	53½	55	3
„ 12	53½	55	6
„ 13	54	55	...
„ 14	55	54½	3
„ 15	55	54½	1
„ 16	55	54½	2
„ 17	54	54½	1
„ 18	54	54½	1
„ 19	53	54½	4
„ 20	52½	54½	2



CITY OF BRADFORD.



REPORT

ON THE

Health of Bradford

FOR THE YEAR 1897.

BY THE

MEDICAL OFFICER OF HEALTH.



BRADFORD :

M. FIELD & SONS, PRINTERS, GODWIN STREET.





## Sanitary Committee, 1897.

*(Meets Every Wednesday, at 5 p.m.)*


---

THE WORSHIPFUL THE MAYOR.

MR. ALDERMAN F. W. JOWETT, Chairman.

MR. COUNCILLOR P. SMITH, Deputy Chairman.

MR. ALDERMAN BOTTOMLEY.      MR. ALDERMAN POPPLEWELL.

„                      LISTER.                      „                      ROBINSON.

MR. COUNCILLOR CROSSLAND      MR. COUNCILLOR MOORHOUSE

„	DAWSON	„	MOSER
„	DOBBY	„	O'FLANN
„	FREEMAN	„	ABRAM PEEL
„	GRAY	„	PRATT
„	GREENWOOD	„	PRIESTMAN
„	HAYHURST	„	ROBINSON
„	HORSFALL	„	S. SMITH
„	JOHNSON	„	STOTT
„	MILNER	„	WILLIAMSON
„	MINTY	„	H.S.WRIGHT

MR. COUNCILLOR JAS WRIGHT.

## City Hospitals Committee, 1897.

*(Meets Last Tuesday in Each Month.)*

MR. ALDERMAN F. W. JOWETT, Chairman.

MR. COUNCILLOR P. SMITH, Deputy Chairman.

MR. ALDERMAN BOTTOMLEY.

" " LISTER.

" " POPPLEWELL.

" " ROBINSON.

" COUNCILLOR CROSSLAND.

" " DAWSON.

" " DOBBY.

" " FREEMAN.

" " HAYHURST.

" " MILNER.

" " MINTY.

" " MOSER.

" " PRATT.

" " PRIESTMAN.

" " ROBINSON.

" " S. SMITH.

" " STOTT.

" " WILLIAMSON.

" " JAS. WRIGHT.

## Staff of Health Department.

---

W. ARNOLD EVANS, M.D.,	Medical Officer of Health.
F. W. RICHARDSON,	Consulting Chemist and Public Analyst.
JAS. CHAMBERS,	Chief Inspector of Nuisances.
J. HEMINGWAY,	Meat Inspector.
W. C. RHODES,	Food and Drugs Inspector.
T. W. CALVERT,	Inspector under Shop Hours' Act.
J. P. GREENWOOD,	Sub-Inspector of Nuisances.
T. H. RAMSDEN,	„ „
H. DRAKE,	„ „
R. YEADON,	„ „
H. E. WYNN,	„ „
T. ELLISON,	„ „
R. PARKER,	„ „
S. HARRISON,	„ „
H. SIMPSON,	„ „
C. SUTCLIFFE,	Disinfecting Officer.
J. McTAGGART,	Manager of Destructor Works.
J. CROWTHER,	Statistical Clerk.
G. H. BRAMFITT,	Clerk.
R. WALTON,	„
W. MARGERISON,	„

---

In addition to the above the Medical Officer of Health is assisted in the Inspection of New Buildings by the following officers under the Building Committee :—

T. PRESTON,	Chief Building Inspector.
H. E. CRAVEN,	Assistant Building Inspector.
I. INGHAM,	„ „ „
F. GLEDHILL,	„ „ „

# INDEX.

	PAGE.
Adulteration of Food ... ..	45
Ages at Death ... ..	11
Articles Disinfected ... ..	38
Bacteriological Report ... ..	70
Bakehouses ... ..	50
Births ... ..	5
Birth-rates in Wards ... ..	6
Bronchitis ... ..	34
Burial Grounds ... ..	43
Canal Boats ... ..	44
Cancer, Deaths from ... ..	35
Cattle Disease ... ..	50
Chief Inspector's Report ... ..	41
Common Lodging Houses ... ..	45
Cow Sheds ... ..	48
Dairies ... ..	48
Dangerous Places ... ..	44
Deaths ... ..	7
Death-rates in Wards ... ..	32
,,     ,,     33 Chief Towns ... ..	36
Decrease in Chief Diseases ... ..	8
Density of Population ... ..	3
Destructors ... ..	53
Diarrhoea ... ..	23
,,     and Temperature ... ..	64
Diphtheria ... ..	21
Disinfecting Station ... ..	38
Fever Hospital ... ..	58
Food Examined ... ..	47
Increase in Chief Diseases ... ..	8
Infantile Death-rate ... ..	14
,,     ,,     in Wards .. ..	13
Infantile Diseases ... ..	12
Infectious     ,,     ... ..	16
,,     ,,     Notification of ... ..	28
Inquests ... ..	35
Insanitary Dwellings ... ..	40

Marriages	...	...	...	...	...	...	...	4
Measles	...	...	...	...	...	...	...	19
Meat, Inspection of	...	...	...	...	...	...	...	49
Milk-shops	...	...	...	...	...	...	...	48
Mortality in Wards	...	...	...	...	...	...	...	11
„ „ 13 Largest Towns	...	...	...	...	...	...	...	10
New Buildings	...	...	...	...	...	...	...	39
Phthisis	...	...	...	...	...	...	...	33
Pleurisy	...	...	...	...	...	...	...	34
Pneumonia	...	...	...	...	...	...	...	34
Population	...	...	...	...	...	...	...	1
Public Institutions, Deaths in	...	...	...	...	...	...	...	16
Refuse Destruction	...	...	...	...	...	...	...	53
“Shop Hours Act”	...	...	...	...	...	...	...	50
Scarlet Fever	...	...	...	...	...	...	...	22
„ „ since 1870	...	...	...	...	...	...	...	29
Scavenging	...	...	...	...	...	...	...	43
Seasonal Mortality	...	...	...	...	...	...	...	14
Slaughter-houses	...	...	...	...	...	...	...	49
Smallpox	...	...	...	...	...	...	...	28
Tuberculous Diseases, Other	...	...	...	...	...	...	...	34
Typhoid Fever	...	...	...	...	...	...	...	26
„ „ Notification of	...	...	...	...	...	...	...	26
Uncertified Deaths	...	...	...	...	...	...	...	35
Urinals	...	...	...	...	...	...	...	44
Vaccination Returns	...	...	...	...	...	...	...	69
Vital Statistics	...	...	...	...	...	...	...	1
Wards, Population of	...	...	...	...	...	...	...	3
Whooping Cough	...	...	...	...	...	...	...	20
Workshops	...	...	...	...	...	...	...	50
Zymotic Diseases	...	...	...	...	...	...	...	17
„ „ in Wards	...	...	...	...	...	...	...	31
„ „ Other	...	...	...	...	...	...	...	24

---

Chart—Meteorological Conditions and Death-rate	<i>to face page</i>	1
Table of Population, Births, and of new cases of Infectious Sicknes		56
Table of Deaths during the year 1897	...	57







CITY OF BRADFORD.

Chart shewing principal Meteorological Conditions and number of Deaths during each week of the Year 1897.

RAINFALL.

BAROMETRIC READINGS.

WEEKLY RANGE OF TEMPERATURE.

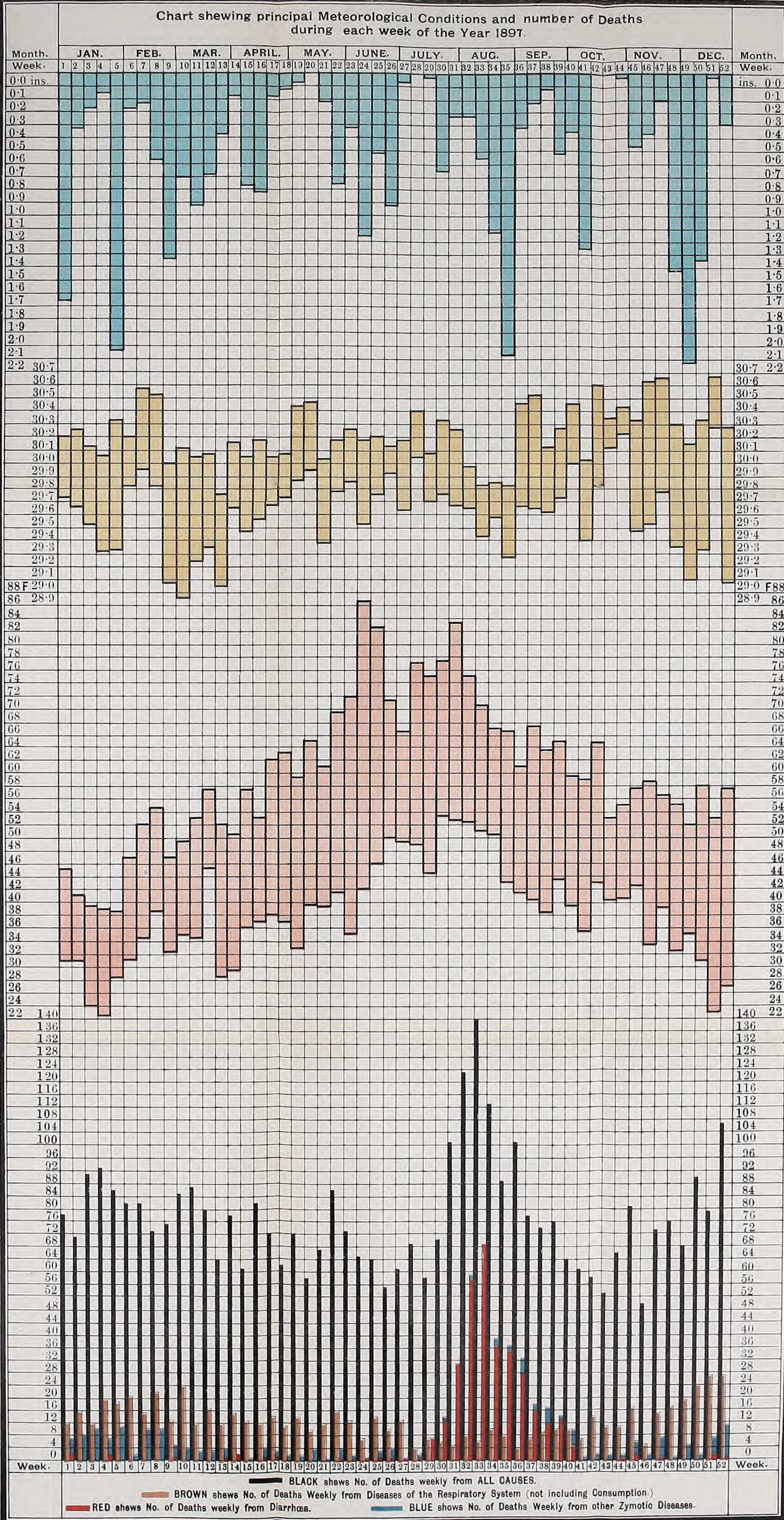
THESE FIGURES REFER TO THE NUMBER OF DEATHS.

RAINFALL.

BAROMETRIC READINGS.

WEEKLY RANGE OF TEMPERATURE.

THESE FIGURES REFER TO THE NUMBER OF DEATHS.









# VITAL STATISTICS.

---

## POPULATION.

The Registrar General's estimate of the population of the City in the middle of the year 1897 is 231,260. In my report for the previous year I gave reasons for supposing that this figure understates the number of persons living in Bradford, and my estimate based upon the number of houses and the average number of people per house, as ascertained at the last census, gives a population of over 249,000. Since the census of 1891 the number of births has exceeded the number of deaths by 12,262, which number added to the census population of 1891 would make the population during the year under review 228,623 but in the light of past experience it is probable that the population of Bradford has been largely increased by immigration and I am therefore inclined to think that my estimate is more nearly correct than that obtained by a mere consideration of the "natural" increase of population. I admit, however, that there is some uncertainty attaching to this matter and that we shall have no accurate knowledge as to population until the census of 1901. If, however, vital statistics are to be of value in judging of Sanitary Conditions it is essential that the figures upon which the calculations are made should be correct, but accuracy cannot be attained by merely taking a census every ten years and estimating the population for intermediate years. This statement applies not only to Bradford but to every City in the Kingdom. It would be a great help to Statisticians and those engaged in Sanitary work if the census were taken quinquennially instead of decennially.

In calculating the various mortality and other rates for the past year I have adopted as a basis the population as estimated by the Registrar General.

Table I. gives the chief figures in reference to population and mortality rates since 1883.

*TABLE I.—Shewing corrected Population, Birth-rate, and Mortality Rates from 1883—1897.*

YEAR.	Corrected Estimate of Population to middle of each year	ANNUAL RATE PER 100 LIVING.		
		Birth-Rate.	Death-Rate.	Zymotic Rate.
1883	199,214	29·88	18·77	1·5
1884	201,347	30·86	21·13	2·6
1885	203,504	30·55	18·62	1·5
1886	205,684	30·55	20·35	2·3
1887	207,887	29·83	21·44	2·9
1888	210,113	29·82	18·66	1·6
1889	212,364	29·53	21·15	2·9
1890	214,634	29·10	23·21	2·3
1891	216,938	28·64	22·12	2·35
1892	219,262	27·18	17·91	1·46
1893	221,610	27·58	20·90	3·22
1894	223,985	26·60	16·95	1·65
1895	226,384	26·03	19·80	2·47
1896	228,809	25·94	16·77	1·50
1897	231,260	24·55	17·39	2·24



Table II. gives the population of the various Wards. Its density varies from 3.4 persons per acre in Allerton Ward to 91.5 persons per acre in the West Ward.

TABLE II.

WARDS.	Population.	Acreage.	Persons per Acre.
North . . . . .	13,663	372	36.7
South . . . . .	14,028	308	45.5
East . . . . .	16,656	392	42.5
West . . . . .	15,189	166	91.5
Listerhills . . . . .	19,985	390	51.2
Great Horton . . . . .	15,791	1283	12.3
Little Horton . . . . .	16,358	428	38.2
East Bowling . . . . .	17,170	557	30.8
West Bowling . . . . .	18,439	1004	18.3
Exchange . . . . .	5,181	117	44.2
Bradford Moor . . . . .	18,727	674	27.7
Manningham . . . . .	24,018	457	52.5
Bolton . . . . .	9,005	994	9.0
Heaton . . . . .	17,218	879	19.5
Allerton . . . . .	9,832	2815	3.4
CITY TOTAL . . . . .	231,260	10,776	21.4

## MARRIAGES.

Information obtained from Mr. Crowther, the Superintendent Registrar for the Bradford district and from Mr. Helmsley, the Superintendent Registrar for the North Bierley district, shows that the number of marriages contracted during the year ended December 31st, 1897, was 2,149. The annual rate of persons married per 1,000 of the population was 18·4, a diminution of 1·0 per 1,000 upon the rate for 1896. In London the rate was 18·5 per 1,000.

TABLE III.

Periods.	Number of Marriages.	Proportion of Marriages. to Population.
1891	2,171	1 in 99
1892	2,059	1 in 106
1893	1,944	1 in 114
1894	2,035	1 in 110
1895	2,053	1 in 110
1896	2,244	1 in 102
1897	2,149	1 in 107

## BIRTHS.

The births registered during 1897 amounted to 5,678, 2,838 being of males and 2,840 being of females. The birth-rate per 1,000 of the estimated population is 24·55 the lowest birth-rate yet recorded in Bradford and diminution of 1·41 per 1,000 upon the extremely low rate for the previous year.

*TABLE IV.*

*Shewing Birth-rates in Cities and Towns of England having a population of over 200,000, during the year 1897.*

Towns in order of magnitude of rates.	Birth-rate per 1000.
Liverpool ... .. .	35·3
Salford ... .. .	35·1
Sheffield ... .. .	34·4
Birmingham ... .. .	33·3
Hull ... .. .	33·3
Manchester ... .. .	33·2
Leeds ... .. .	31·6
Newcastle... .. .	31·3
33 Large Towns ... .. .	30·7
Leicester ... .. .	30·6
London ... .. .	30·0
Nottingham ... .. .	28·9
Bristol ... .. .	27·8
Bradford ... .. .	24·55

Table V. shews the distribution of births in the municipal Wards; the rate per 1000 of the population varies from 19·8 in Heaton to 31·2 in the South Ward.

TABLE V.  
*Shewing the Births and Birth-rate in the City of Bradford in each of the 15 Wards in 1897.*

WARDS.	MALES.			FEMALES.			MALES AND FEMALES.			Birth-rate per 1000.
	Legitimate.	Illegitimate.	Total.	Legitimate.	Illegitimate.	Total.	Legitimate.	Illegitimate.	Total.	
North ... ..	171	7	178	153	17	170	324	24	348	25·4
South ... ..	198	16	214	207	17	224	405	33	438	31·2
East ... ..	197	9	206	192	3	195	389	12	401	24·0
West ... ..	136	17	153	139	11	150	275	28	303	19·9
Listerhills ...	191	9	200	192	10	202	383	19	402	20·1
Great Horton ...	191	8	199	166	6	172	357	14	371	23·4
Little Horton...	200	33	233	181	23	204	381	50	437	26·7
East Bowling ...	226	19	245	242	15	257	468	34	502	29·2
West Bowling ...	222	9	231	212	8	220	434	17	451	24·4
Exchange ... ..	47	9	56	62	7	69	109	16	125	24·1
Bradford Moor ...	252	14	266	239	11	250	491	25	516	27·5
Manningham ...	290	16	306	293	16	309	583	32	615	25·6
Bolton ... ..	89	4	93	98	3	101	187	7	194	21·5
Heaton ... ..	146	5	151	182	9	191	328	14	342	19·8
Allerton ... ..	105	2	107	123	3	126	228	5	233	23·6
CITY TOTAL ...	2661	177	2838	2681	159	2740	5342	336	5678	24·55

## DEATHS.

The deaths from all causes registered during the year 1897 amounted to 4023, of which 2013 were of males and 2010 of females, as compared with a total of 3838 during the previous year. The death-rate per 1000 of the population is therefore 17.39, being an increase of .62 per 1000, upon the rate for 1896. The total death-rate for England and Wales was 17.43, and for the 33 large towns 19.10 per 1000. The London death-rate was 18.19 per 1000.

TABLE VI.

YEAR.	Estimated Population in the middle of each year.	Births.	Deaths.	Annual Rate per 1000 living.	
				Births.	Deaths.
1882	197,103	6225	4142	31.59	21.01
† 1883	199,214	5953	3741	29.88	18.77
1884	201,347	6216	4255	30.86	21.13
1885	203,604	6218	3791	30.65	18.62
1886	205,684	6285	4187	30.55	20.35
1887	207,887	6202	4458	29.83	21.44
1888	210,113	6266	3922	29.82	18.66
1889	212,364	6272	4492	29.53	21.15
† 1890	214,634	6247	4982	29.10	23.21
1891	216,938	6214	4800	28.64	22.12
1892	219,262	5959	3927	27.18	17.91
1893	221,610	6112	4632	27.58	20.90
1894	223,985	5960	3797	26.60	16.95
1895	226,384	5894	4483	26.03	19.80
† 1896	228,809	5945	3838	25.94	16.77
1897	231,260	5678	4023	24.55	17.39

† In these years, the births and deaths are those registered in 53 weeks.

The classes of disease that shew the greatest variation in mortality during the past two years are indicated in the following table.

TABLE VII.

DISEASES.	Deaths in 1897.	Deaths in 1896.	Increase or Decrease.
Diarrhœa ... ..	349	70	+ 279
Phthisis and other Tuberculous Diseases ... ..	513	416	+ 97
Brain Disease ... ..	375	286	+ 89
Old Age... ..	238	184	+ 54
Enteritis ... ..	87	57	+ 30
Premature Birth ... ..	122	107	+ 15
Cancer ... ..	188	182	+ 6
Atrophy and Debility... ..	140	145	- 5
Convulsions ... ..	143	152	- 9
Scarlet Fever ... ..	9	24	- 15
Bronchitis ... ..	366	382	- 16
Heart Disease ... ..	313	335	- 22
Measles ... ..	77	105	- 28
Pneumonia ... ..	272	304	- 32
Whooping Cough ... ..	42	105	- 63

It will be seen that there is an increase of 279 deaths from diarrhœa upon the total for 1896, an increase shown chiefly in the prevalence of this disorder in children under twelve months of age. This melancholy fact is explained by the comparatively long prevalence of the hot weather during July and August. Reference to Appendix I., which gives the temperature of the ground at depths of 1 foot and 4 feet respectively shews that diarrhœa does not exist in an epidemic form until the 4-foot thermometer reaches 56° F. This is quite in accord with the



well-known fact that at a low temperature soil polluted with organic material does not form so favourable a medium for the growth of deleterious micro-organisms as at higher temperature. In districts, the soil of which is polluted by sewage or other organic material; diarrhoea in an epidemic form is always present during or following on a prolonged hot season.

The other class of diseases which shows a serious increase, viz. 97, on the total for the previous year is that of Tuberculous diseases. Many of those who succumb to Tuberculosis are infants brought up on cow's milk and evidently infected by their food. It is a matter for regret that the regulation of dairies and cowsheds outside the city boundaries is not under the authority of the community which consumes the milk produced. I am strongly of opinion that with proper ventilation of cow-sheds and the separation of the tuberculous from the non-tuberculous animals, milk could be produced free from the germs of tuberculosis.

TABLE VIII.

*Comparative Table shewing the Estimated Population, Birth-rate, Death-rate, and Infantile Death-rate in each of the Thirteen largest towns of England and Wales (those having a population of over 200,000) for the year 1897.*

	Estimated Population to middle of 1897.	Birth-rate.	Death-rate.	Zymotic Rate.	Deaths of Infants to 1000 Births.	Persons to an Acre.
London .. ...	4,463,169	30·0	18·2	2·58	159	59·8
Manchester ...	534,299	33·2	23·1	3·81	105	41·4
Liverpool ...	633,078	35·3	24·4	3·83	200	47·8
Birmingham ..	505,772	33·3	21·6	3·88	214	39·8
Leeds ... ..	409,472	31·6	19·9	2·80	190	19·0
Sheffield ...	351,848	34·4	21·2	3·49	198	17·9
Bristol ... ..	232,242	27·8	17·2	1·83	149	49·7
Nottingham ...	232,934	28·9	18·8	2·81	206	21·2
<b>Bradford</b>	<b>231,260</b>	<b>24·55</b>	<b>17·39</b>	<b>2·24</b>	<b>179</b>	<b>21·4</b>
Hull ... ..	225,045	33·3	18·6	3·25	181	27·4
Newcastle ...	217,555	31·3	19·1	2·09	178	40·5
Salford ... ..	213,190	35·1	23·9	5·50	219	41·2
Leicester ...	203,599	30·6	17·7	3·13	205	23·7

### Mortality in the Wards.

Tables IX. gives the mortality in the various wards. The rates vary from 12·8 and 13·0 in Bolton and Heaton to 23·5 and 25·5 per 1000 in the Exchange and South Wards respectively.

TABLE IX.

*Showing the Mortality Rates in the various Wards.*

WARDS.	Total death-rate per 1000 living.
North .. .. .	18·8
South ... .. .	23·5
East .. .. .	15·2
West ... .. .	17·6
Listerhills ... .. .	13·5
Great Horton ... .. .	16·0
Little Horton ... .. .	17·1
East Bowling ... .. .	20·2
West Bowling ... .. .	18·0
Exchange ... .. .	25·5
Bradford Moor ... .. .	19·2
Manningham ... .. .	17·8
Bolton .. .. .	12·8
Heaton ... .. .	13·0
Allerton ... .. .	15·6
CITY TOTAL ... .. .	17·39

### Ages at Death.

INFANTILE MORTALITY.—The number of deaths of infants under twelve months of age is 1019 giving an infantile mortality rate of 179 per 1000 births. The mortality of infants under one year of age varied amongst the towns of the Country from 131 per 1000 births in Huddersfield to 262 in Preston.

The following table gives the principal causes of infant mortality.

TABLE X.

*Rates of Mortality of Children under 1 year of age, from Chief Infantile Diseases per 1000 Births.*

	1895.		1896.		1897.	
	Deaths.	Rate per 1000 Births.	Deaths.	Rate per 1000 Births.	Deaths.	Rate per 1000 Births.
From all Causes	1197	203	849	142	1018	179
Lung Diseases ...	186	31	159	26	143	25
Convulsions ...	197	33	121	20	110	19
Atrophy and Debility ...	166	28	125	21	121	21
Premature Birth .	125	21	106	17	122	21
Diarrhœa ... ..	246	42	50	8	248	43
Whooping Cough	42	7	49	8	21	4
Tuberculous Disease ...	31	5	39	6	31	5
Measles ... ..	3	0.5	23	3	18	3

In the wards the infant mortality varies from 97 per 1000 births in Bolton Ward to 280 in the Exchange Ward.

TABLE XI.

*Shewing number of Deaths of Infants under 1 year of age and the Death-rate per 1000 Births in each Ward.*

WARDS.	Deaths of Infants under 1 year of age.	Death-rate per 1000 Births.
North ... ..	67	192
South ... ..	113	238
East ... ..	59	147
West ... ..	74	244
Listerbills ... ..	51	126
Great Horton ... ..	51	137
Little Horton ... ..	89	203
East Bowling ... ..	95	189
West Bowling ... ..	74	164
Exchange ... ..	35	280
Bradford Moor ... ..	100	193
Manningham ... ..	113	183
Bolton .. ...	19	97
Heaton ... ..	50	146
Allerton ... ..	28	120
CITY TOTAL ... ..	1018	179

*TABLE XII.*  
*Seasonal and Infantile Mortality.\**

WARDS.	QUARTERS.				Total Deaths.	Deaths under 5 years of age.	Percent- age of Deaths under 5 years to total deaths.	Percent- age of Deaths under 1 year to total births.
	Mar.	June.	Sept.	Dec.				
North... ..	65	50	62	48	225	109	48.4	19.2
South... ..	57	51	103	78	289	162	56.0	25.7
East ... ..	63	54	59	47	223	84	37.6	14.7
West . ... ..	47	45	90	52	234	79	33.7	10.4
Listerhills ... ..	65	56	63	53	237	78	32.9	12.6
Great Horton ...	57	47	59	59	222	73	32.8	13.7
Little Horton ...	66	50	70	60	246	101	41.0	17.8
East Bowling ...	79	59	103	63	304	128	42.1	18.9
West Bowling	65	71	99	56	291	113	38.8	16.4
Exchange ... ..	35	17	39	25	110	51	43.9	28.0
Bradford Moor...	84	72	92	67	315	147	46.6	19.3
Manningham ...	91	90	119	86	386	151	39.1	18.3
Bolton ... ..	29	20	18	34	101	31	30.6	9.7
Heaton ... ..	50	50	57	39	196	59	30.1	11.9
Allerton ... ..	45	28	29	33	135	41	30.3	12.0
Public Institutions	151	135	91	126	503	79	15.7	...
CITY TOTAL...	1049	895	1153	926	4023	1486	36.9	17.9

\* In this table the deaths occurring in the Public Institutions have been deducted from the Wards in which the Institutions are situate and classified together.



TABLE XIII.

*Shewing the proportion of Deaths of Children under 1 year and under 5 in the City of Bradford, during the 20 years 1878-97*

YEARS.	Deaths under 1 year per 1000 Births.	Deaths under 1 year per 100 Deaths at all ages.	Death rate under 5 years per 1000 living at that age.	Death-rate under 5 years per 100 deaths at all ages.
1878	178	25.9	85.7	47.4
1879	152	23.5	74.3	42.4
1880	176	27.2	82.2	48.0
1881	154	25.8	56.4	40.7
1882	174	27.0	71.4	45.9
1883	147	23.4	50.5	36.8
1884	181	34.2	62.1	41.2
1885	144	23.6	49.9	37.7
1886	168	25.1	59.4	41.5
1887	179	24.9	62.0	41.6
1888	153	24.6	50.0	39.0
1889	181	25.3	60.8	42.6
1890	169	21.2	55.8	35.9
1891	181	23.4	57.2	39.0
1892	155	23.5	44.8	37.4
1893	198	26.1	79.5	39.7
1894	144	22.6	59.2	36.1
1895	203	26.6	75.9	39.2
1896	143	22.1	56.2	38.8
1897	179	25.3	64.2	36.9

## Deaths in Public Institutions.

The deaths in the Public Institutions amounted to 503, distributed as follows :—

	Males.	Females.	Total.
Eye and Ear Hospital ... ..	2	—	2
St. Catherine's Home ... ..	—	8	8
Children's Hospital ... ..	20	14	34
City Hospital for Infectious Diseases ... ..	16	8	24
Infirmery ... ..	99	59	158
Workhouse ... ..	165	112	277
	<u>302</u>	<u>201</u>	<u>503</u>

## Infectious Diseases.

The number of deaths attributed to this class of diseases was 518, giving a zymotic death-rate of 2.24 per 1000 of the population. In Table XIV. are given the figures for the past ten years.

TABLE XIV.

*Showing number of Deaths from Zymotic Diseases in Bradford during the years 1888-1897.*

DISEASES.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	Total in 10 years for each Disease.
Small-pox ... ..	2	1	..	...	4	113	27	..	1	...	148
Measles ... ..	120	113	208	81	62	68	111	17	105	77	962
Scarlet Fever... ..	33	63	46	143	45	71	72	25	24	9	531
Diphtheria ... ..	7	12	8	13	10	19	13	18	12	10	122
Whooping Cough... ..	38	178	50	133	90	97	63	98	105	42	894
Typhus Fever ... ..	...	1	...	2	...	...	...	...	...	...	3
Typhoid Fever ... ..	19	48	31	27	18	48	31	39	28	30	319
Other or doubtful Fevers	7	4	3	5	1	5	1	3	...	1	30
Diarrhœa ... ..	131	205	154	100	91	277	53	361	60	349	1811
Total Zymotic Diseases (each year ... ..)	357	625	500	510	321	713	371	561	314	518	4820

The prevalence of Infectious Disease in Bradford as compared with the thirty-three great towns is shewn in the following table.

TABLE XV.

1897.	No. of Deaths.	Death-rates per 1000 living.	
		Bradford.	33 Large Towns.
Small-pox ... ..	...	0·00	0·00
Measles ... ..	77	0·33	0·55
Scarlatina ... ..	9	0·03	0·18
Diphtheria and Croup	17	0·07	0·31
Whooping Cough	42	0·18	0·41
“Fever” ... ..	31	0·13	0·18
Diarrhœa ... ..	349	1·50	1·24
7 Zymotic Diseases ..	525	2·24	2·87

The mortality from each disease of the infective order is seen in the tables following :—

TABLE XVI.

*Deaths from Measles.*

WARDS.	QUARTERS.								Year 1897.		
	March.		June		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North ... ..	9	1	...	...	...	...	1	...	10	1	11
South ... ..	3	2	...	...	...	...	2	4	5	6	11
East ... ..	1	1	...	...	...	...	1	...	2	1	3
West ... ..	...	...	...	...	...	1	2	...	2	1	3
Listerhills ... ..	...	1	...	...	...	...	...	...	...	1	1
Great Horton ...	4	5	1	...	...	...	...	...	5	5	10
Little Horton ...	...	...	...	...	...	...	...	...	...	...	...
East Bowling ...	1	3	...	...	...	1	...	...	1	4	5
West Bowling ...	1	1	...	1	...	...	...	...	1	2	3
Exchange ... ..	...	...	...	...	...	...	...	3	...	3	3
Bradford Moor...	6	5	...	...	...	...	2	...	8	5	13
Manningham ... ..	...	3	...	1	...	...	...	...	...	4	4
Bolton ... ..	...	2	...	...	...	...	...	...	...	2	2
Heaton ... ..	1	1	...	...	...	...	2	...	3	1	4
Allerton ... ..	1	3	...	...	...	...	...	...	1	3	4
CITY TOTAL ...	27	28	1	2	...	2	10	7	38	39	77

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
18	28	20	5	3	2	1	...	...	...	...	...	77



TABLE XVII.

*Deaths from Whooping Cough.*

WARDS.	QUARTERS.								Year 1897.		
	March.		June.		Sept.		Dec.		M.	F.	Total
	M.	F.	M.	F.	M.	F.	M.	F.			
North .. ..	..	..	2	..	..	..	2	..	4	..	4
South ... ..	2	..	1	..	..	1	..	1	3	2	5
East ... ..	2	..	..	..	..	..	..	..	2	..	2
West ... ..	..	..	..	..	..	..	..	..	..	..	..
Listerhills ...	..	..	..	..	..	..	..	..	..	..	..
Great Horton ...	..	..	1	..	1	1	1	..	3	1	4
Little Horton ...	..	..	..	1	1	1	..	..	1	2	3
East Bowling ...	..	..	..	..	..	1	..	3	..	4	4
West Bowling ...	..	..	..	..	3	..	..	2	3	2	5
Exchange ... ..	..	1	..	..	..	..	..	..	..	1	1
Bradford Moor ...	1	..	..	1	..	1	..	4	1	6	7
Manningham ...	1	..	..	1	..	..	..	..	1	1	2
Bolton ... ..	..	1	..	..	1	..	..	..	1	1	2
Heaton ... ..	..	..	..	1	..	2	..	..	..	3	3
Allerton ... ..	..	..	..	..	..	..	..	..	..	..	..
CITY TOTAL ...	6	2	4	4	6	7	3	10	19	23	42

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
21	12	7	1	1	..	..	..	..	..	..	..	42

TABLE XVIII.

*Deaths from Diphtheria.\**

WARDS.	QUARTERS.								Year, 1897.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North... ..	...	...	...	..	..	..	...	...	.	...	...
South... ..	...	...	...	...	...	...	...	...		...	...
East ... ..	...	...	...	...	...	...	..	...	...	..	...
West .. ..	...	...	...	..	...	..	...	...		...	...
Listerhills ... ..	...	...	...	...	...	...	...	1		1	1
Great Horton ..	1	...	...	...	..	...	...	...	1	...	1
Little Horton ...	1	...	...	...	...	...	...	1	1	1	2
East Bowling ..	...	...	..	1	..	..		...	..	1	1
West Bowling ..	...	...	...	...	...	...	...	...	...	...	...
Exchange .. ..	...	1	..	...	...	...	...	...	...	1	1
Bradford Moor...	...	...	...	..	...	...	...	...	..	..	...
Manningham ..	...	1	...	...	...	..	...	...	...	1	1
Bolton .. ..	...	...	...	1	...	...	...	...	...	1	1
Heaton ... ..	...	...	...	1	...	...	...	..	...	1	1
Allerton ... ..	...	...	...	...	...	...	...	1		1	1
CITY TOTAL ...	2	2	...	3	...	...	...	3	2	8	10

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
...	1	1	1	2	4	...	...	1	...	..	...	10

\* Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XIX.

*Deaths from Scarlet Fever.\**

WARDS.	QUARTERS.								Year, 1897.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North... ..	...	..	...	...	...	...	...	...	...	...	...
South.. ...	...	...	...	...	...	...	...	...	...	...	...
East ... ..	...	...	...	...	...	...	...	...	...	...	...
West ... ..	...	...	...	...	...	...	...	...	...	...	...
Listerhills ..	...	...	...	...	...	...	...	1	...	1	1
Great Horton .	...	...	...	1	...	...	...	...	...	1	1
Little Horton ..	...	...	...	...	...	...	...	...	...	...	...
East Bowling ..	...	...	...	...	...	...	...	...	...	...	...
West Bowling ..	...	...	...	...	...	...	...	...	...	...	...
Exchange ... ..	...	1	...	...	...	...	...	...	...	1	1
Bradford Moor ..	...	...	...	...	...	...	...	...	...	...	...
Manningham ..	1	1	...	...	...	...	1	...	2	1	3
Bolton ... ..	...	...	...	...	...	...	...	...	...	...	...
Heaton ... ..	1	...	...	...	1	...	...	...	2	...	2
Allerton ... ..	...	1	...	...	...	...	...	...	...	1	1
CITY TOTAL .	2	3	...	1	1	...	1	1	4	5	9

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
...	3	...	1	1	4	...	...	...	...	...	...	9

\* Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XX.

*Deaths from Diarrhœa.\**

WARDS	QUARTERS.								Year 1897.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North...	...	...	...	...	14	9	1	...	15	9	24
South...	...	1	1	...	25	22	1	1	27	24	51
East ...	...	2	...	...	4	6	..	...	4	8	12
West . .	...	..	...	...	18	23	...	1	18	24	42
Listerhills ...	...	...	..	...	6	6	...	1	6	7	13
Great Horton ...	...	...	...	...	4	5	..	...	4	5	9
Little Horton ...	...	...	...	...	16	9	...	1	16	10	26
East Bowling ...	...	...	...	1	13	17	...	...	13	18	31
West Bowling ...	...	1	1	...	11	18	1	...	13	19	32
Exchange ..	1	...	1	...	5	6	..	..	7	6	13
Bradford Moor...	...	...	1	...	16	9	...	1	17	10	27
Manningham ...	...	1	1	2	24	15	3	2	28	20	48
Bolton ...	...	...	..	..	4	2	...	...	4	2	6
Heaton ...	...	...	...	1	6	3	...	...	6	4	10
Allerton ...	...	...	...	...	2	3	...	...	2	3	5
CITY TOTAL ...	1	5	5	4	168	153	6	7	180	169	349

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
248	52	5	2	..	...	1	1	2	4	...	34	349

\* Deaths in Public Institutions are referred to in the Wards from whence the patients come.

TABLE XXI.

*Deaths from other Zymotic Diseases.*

WARDS.	Influenza.		Erysipelas.		Syphilis.		Rheumatic Fever.		Typhoid Fever.		Total.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
North ... ..	2	...	...	1	1	1	2	...	...	...	7
South ... ..	1	...	...	...	1	3	1	...	...	1	7
East ... ..	...	1	...	...	...	...	1	1	...	...	3
West ... ..	...	...	...	...	1	1	...	1	...	1	4
Listerhills ... ..	...	1	...	...	...	...	...	...	...	1	2
Great Horton ..	1	1	1	1	1	...	1	...	...	2	8
Little Horton ..	...	1	...	...	2	1	1	1	...	...	6
East Bowling ..	...	...	1	...	...	1	1	1	...	...	4
West Bowling ..	1	1	...	...	...	1	1	2	...	2	8
Exchange ... ..	...	...	...	...	2	...	1	...	...	...	3
Bradford Moor ..	1	...	...	...	...	1	...	...	...	...	2
Manningham ..	...	2	1	...	2	2	1	1	...	1	10
Bolton ... ..	...	2	...	...	...	...	...	...	...	...	2
Heaton ... ..	1	2	1	1	1	...	1	2	...	...	9
Allerton ... ..	...	1	...	...	...	...	2	...	...	...	3
CITY TOTAL ...	7	12	4	3	11	11	13	9	...	8	78

\* Deaths in Public Institutions are referred to in the Wards from whence they come.

TYPHOID OR ENTERIC FEVER.—Under the provisions of the Infectious Diseases Notification Act 149 cases of this disease were notified during the year, 30 of which ended fatally. Owing to lack of suitable accommodation for isolation in their own houses 79 of the cases were removed for isolation and treatment to the Fever Hospital. A detailed analysis of the cases is contained in the two following tables.

TABLE XXII.

*Shewing number of cases, deaths and case-mortality from Typhoid Fever during the year 1897.*

AGE.	CASES.		DEATHS.		Death-rate per cent.
	Males.	Females.	Males.	Females.	
Under 5	3	1	...	...	...
5-10	9	8	2	1	17·6
10-20	24	25	3	2	10·2
20-30	25	12	7	2	24·3
30-40	18	8	2	3	19·2
40-50	6	5	3	1	36·3
50 and upwards	5	1	3	1	66·6
ALL AGES	90	59	20	10	20·1

TABLE XXIII.

*Shewing number of deaths and percentage mortality from Typhoid Fever during each of the last 10 years.*

YEARS.	No. of Deaths.	Deaths per 100 cases notified.
1888	19	18·1
1889	48	28·7
1890	31	21·5
1891	27	17·2
1892	18	22·5
1893	48	22·3
1894	31	22·0
1895	39	22·0
1896	29	19·0
1897	30	20·1



## TABLE XXIV.

*Notification of Typhoid Fever in different Streets, 1897.*

## NORTH WARD.

1, King Charles Street	1, Mab Court
1, Loom street	

## SOUTH WARD.

1, Banner Street	1, Leeds Road
1, Barkerend Road	1, Malvern Street
1, Birk Street	1, Robert Street
1, Clayton Place	1, Southend Street
1, Edderthorpe Street	1, Seymour Street
1, Harris Street	2, Thursby Street
2, Hubert Street	

## EAST WARD.

1, Cordingley Street	1, Nuttall Road
1, Harrogate Street	1, Otley Road
1, Hillside Road	

## WEST WARD.

5, Infirmary	1, Longlands Street
1, Clayton Street	1, Northorp Square
1, Dyson Street	1, Summer Street
2, Jowett Street	1, White Abbey Road

## LISTERHILLS WARD.

3, Bower Street	1, Milton Place
1, Carlton Street	1, Nazeby Street
1, Cavendish Street	1, Great Russell Street
1, Duncan Street	1, Tumbling Hill Street
1, Merton Road	

## GREAT HORTON WARD.

1, Bakes Street	1, Kingswood Place
1, Bowker Street	1, Pleasant Street
1, Gale Street	1, Stephenson Street
1, High Street	1, Union Road
1, Legrams Lane	

## LITTLE HORTON WARD.

1, Belloe Street	2, Manchester Road
1, Copley Street	2, Southfield Lane
3, Grafton Street	2, St. James Street
1, Holme Street	1, Workhouse
2, Little Horton Lane	

## EAST BOWLING WARD.

- |                   |                   |
|-------------------|-------------------|
| 1, Lower Lane     | 1, Vere Street    |
| 1, Ludlam Street  | 1, Wakefield Road |
| 2, Saville Street |                   |

## WEST BOWLING WARD.

- |                       |                      |
|-----------------------|----------------------|
| 1, Bombay Street      | 1, Round Street      |
| 2, Cotewall Road      | 1, Rydal Street      |
| 1, Donisthorpe Street | 1, Smiddles Lane     |
| 1, Faxfleet Street    | 2, Springmill Street |
| 2, Manchester Road    | 1, Thirkhill Street  |
| 1, Mark Street        |                      |

## EXCHANGE WARD.

- |                  |              |
|------------------|--------------|
| 1, George Street | 1, Park Gate |
| 1, Kirkgate      |              |

## BRADFORD MOOR WARD.

- |                     |                     |
|---------------------|---------------------|
| 1, Acton Street     | 2, Firth Street     |
| 2, Almond Street    | 1, Harrison Street  |
| 2, Amberley Street  | 1, Juno Street      |
| 1, Arkwright Street | 1, Peace Street     |
| 1, Back Lane        | 1, Rochester Street |
| 3, Cartmel Street   | 1, School Square    |
| 1, Ebenezer Street  |                     |

## MANNINGHAM WARD.

- |                      |                   |
|----------------------|-------------------|
| 1, Binbrook Street   | 1, Lumb Lane      |
| 1, Bingley Street    | 1, Oakwood Street |
| 1, Clarendon Terrace | 2, Oswald Street  |
| 1, Denby Street      | 2, Rosse Street   |
| 1, Four Lane Ends    | 1, Toller Lane    |
| 1, Kensington Street | 1, Whetley Hill   |

## BOLTON WARD.

- |                  |                              |
|------------------|------------------------------|
| 3, Hebden Street | 1, Midland Road, Frizinghall |
| 2, South Parade  |                              |

## HEATON WARD.

- |                    |                        |
|--------------------|------------------------|
| 1, Chassum Street  | 1, Paul's Street       |
| 2, Farfield Street | 1, Springcliffe Street |
| 1, Fairfield Road  | 2, Victor Terrace      |
| 1, Manor Terrace   |                        |

## ALLERTON WARD.

- |                    |                   |
|--------------------|-------------------|
| 1, Cemetery Road   | 1, Grange Terrace |
| 2, Daisy Hill Lane | 1, Munby Street   |
| 1, Duckworth Lane  | 1, Upper Green    |

SMALLPOX.—There was no case of this disease in Bradford during 1897.

### Notification of Infectious Diseases.

During the year 710 cases of Infectious disease were notified under the provisions of the Infectious Diseases Notification Act of 1889; this is a considerable decrease upon the number notified during the previous year.

TABLE XXV.

MONTH.	1894.	1895.	1896.	1897.
January ... ..	241	103	79	52
February ... ..	175	60	65	56
March ... ..	130	48	60	61
April ... ..	126	42	43	41
May ... ..	173	64	50	58
June ... ..	117	36	76	62
July ... ..	118	72	75	60
August ... ..	112	57	71	50
September ... ..	108	66	91	68
October ... ..	104	113	85	80
November ... ..	119	18	72	62
December ... ..	74	62	66	60
	<hr/> 1597	<hr/> 805	<hr/> 833	<hr/> 710

The diseases were constituted as follows :—

	1894.	1895.	1896.	1897.
Scarlet Fever ... ..	1035	379	397	331
Typhoid Fever ... ..	141	177	152	149
Typhus Fever ... ..	—	—	—	—
Smallpox ... ..	196	—	1	—
Continued Fever... ..	2	—	2	1
Relapsing Fever ... ..	—	—	—	—
Puerperal Fever... ..	22	22	18	18
Diphtheria ... ..	49	39	41	28
Membranous Croup ...	8	17	12	11
Erysipelas ... ..	144	169	210	171
English Cholera... ..	—	2	—	1
	<hr/> 1597	<hr/> 805	<hr/> 833	<hr/> 710

The Table following gives the number of notified cases of Scarlet Fever, together with the number of deaths, and death-rate for each year since 1870.

TABLE XXVI.—Scarlet Fever.

YEAR.	No. of Deaths.	No. of Notification.	Death-rate per 10 000 living.
1870	241	...	16.93
1871	144	...	9.79
1872	81	...	5.53
1873	47	...	3.00
1874	289	...	17.72
1875	458	...	27.21
1876	143	...	8.23
1877	110	...	6.13
1878	156	...	8.42
1879	184	...	9.45
1880	190	...	9.64
*1881	118	(6 mos) 424	6.41
1882	66	408	3.20
1883	36	352	1.75
1884	33	493	1.54
1885	46	786	2.15
1886	89	1118	4.06
1887	98	1308	4.37
1888	33	407	1.43
1889	63	543	2.68
1890	46	546	1.91
1891	143	1163	6.59
1892	45	944	2.05
1893	71	1445	3.20
1894	72	1035	3.21
1895	25	379	0.11
1896	24	397	1.04
1897	9	331	0.38

\* First year of Notification.

TABLE XXVII.

*Notifications, Deaths, and Death-rate from Scarlet Fever at different Age Periods during 1897.*

AGES.	Notifications.	Deaths.	Deaths per rate 100 notified.
Under 1 year ... ..	3	...	...
1 year and under 2 .. ..	11	3	27·27
2 years „ „ 3... ..	22	..	..
3 years „ „ 4 .. ..	40	1	2·50
4 years „ „ 5 .. ..	28	1	3·57
5 years „ „ 10... ..	152	4	2·63
10 years „ „ 15... ..	56	...	...
15 years and upwards ... ..	19	...	...
TOTALS ... ..	331	9	2·71



Showing the number of Notifications from each Disease during 1897 in the different Wards.

WARDS.	Cholera.	Smallpox.	Scarlet Fever.	Typhoid Fever.	Typhus Fever.	Diphtheria.	* Erysipelas.	* Puerperal Fever.	* M'brans' Group.	* Continued Fever.	Relapsing Fever.	TOTAL.
North ... ..	...	...	13	3	...	1	12	...	1	...	...	30
South ... ..	...	...	2	15	...	...	5	1	...	...	...	23
East ... ..	...	...	12	6	...	...	9	...	...	...	...	27
West ... ..	...	...	32	13	...	...	19	1	1	...	...	66
Listerhills ... ..	...	...	28	11	...	2	13	4	...	...	...	58
Great Horton ... ..	...	...	37	9	...	4	8	2	1	...	...	61
Little Horton ... ..	...	...	20	15	...	3	12	2	...	...	...	52
East Bowling ... ..	1	...	10	6	...	3	11	2	...	1	...	34
West Bowling ... ..	...	...	42	14	...	4	16	3	4	...	...	83
Exchange... ..	...	...	1	3	...	1	6	...	...	...	...	11
Bradford Moor ... ..	...	...	7	18	...	3	5	...	...	...	...	33
Mannirgham ... ..	...	...	49	14	...	3	24	1	...	...	...	91
Bolton ... ..	...	...	19	6	...	1	4	1	2	...	...	33
Heaton ... ..	...	...	50	9	...	...	10	1	1	...	...	71
Allerton ... ..	...	...	9	7	...	3	17	..	1	...	...	37
CITY TOTALS ... ..	1	...	331	149	...	28	171	18	11	1	...	710

\* Notification of these diseases brought into force Feb. 1st, 1893.

TABLE XXIX.

*Shewing the Death-rate per 1000, in Bradford, and in each of its 15 Wards from Zymotic Diseases, and from all causes during 1888—1897.*

WARDS.	Seven Principal Zymotic Diseases.										All Causes.									
	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
North ..	1.4	3.0	3.5	1.7	2.2	3.4	1.4	2.1	1.1	2.6	20.1	21.7	24.9	25.1	21.6	23.4	19.0	17.1	20.7	18.8
South ..	2.0	1.8	2.6	2.0	2.1	4.4	2.0	3.7	3.3	6.2	20.1	23.3	25.9	25.3	20.6	25.1	18.9	25.2	19.6	23.5
East ..	0.9	1.3	1.4	1.8	1.9	1.6	1.2	1.3	1.0	1.2	16.2	17.2	18.9	21.6	16.6	17.8	15.5	19.3	16.5	15.2
West ..	1.7	3.7	3.5	2.3	1.5	4.9	2.0	3.6	0.8	2.8	18.0	25.8	27.0	24.8	20.0	23.7	18.6	24.1	18.1	17.6
Listerhills ..	1.1	2.6	1.2	1.3	0.7	1.0	1.4	1.9	0.9	0.7	16.3	18.6	21.2	22.4	18.1	18.6	15.8	17.1	14.3	13.5
Great Horton..	1.1	2.3	0.7	2.7	1.3	2.7	1.5	1.9	1.6	1.7	15.2	18.7	19.0	20.4	17.9	17.5	16.9	19.2	17.2	16.0
Little Horton..	1.6	3.4	2.0	1.5	1.8	2.8	1.8	2.6	2.2	2.3	16.3	15.6	19.2	21.1	19.0	20.3	16.8	18.6	18.3	17.1
East Bowling...	2.6	2.3	4.0	2.5	1.4	3.9	2.9	3.2	2.4	2.3	13.4	23.4	24.1	24.5	17.6	20.3	18.7	22.6	19.9	20.2
West Bowling	3.1	4.1	1.4	2.0	1.8	4.5	1.8	2.4	1.6	2.1	17.8	18.9	18.8	21.9	11.4	21.4	18.3	21.3	18.0	18.0
Exchange ..	1.8	4.6	3.2	1.1	2.5	3.0	1.9	2.3	1.3	3.6	27.5	26.1	28.3	19.4	20.8	22.2	16.0	19.3	19.8	25.5
Bradford Moor	2.4	2.1	2.0	2.1	1.1	2.8	2.1	3.6	1.6	2.6	21.2	20.6	20.4	24.6	17.2	20.3	17.4	20.3	16.6	19.2
Manningham ..	1.1	2.7	1.9	3.1	0.9	3.3	1.8	3.0	1.4	2.4	14.3	17.2	18.7	22.1	17.6	20.2	18.9	19.8	16.3	17.8
Bolton ..	0.5	1.5	1.9	0.7	2.0	2.6	1.0	1.5	0.4	1.3	13.6	14.4	17.9	15.3	14.3	19.7	14.5	14.8	11.8	12.8
Heaton ..	0.5	2.9	1.0	2.3	1.1	2.7	0.9	1.2	0.5	1.2	13.7	15.6	15.8	19.1	14.3	17.4	12.9	15.3	11.8	13.0
Allerton ..	1.2	1.9	1.1	1.7	1.0	3.2	1.3	1.9	1.3	1.0	14.2	14.8	16.6	18.4	15.7	21.2	12.4	16.4	14.1	15.6
CITY TOTAL ...	1.6	2.65	2.08	2.35	1.46	3.22	1.65	2.47	1.50	2.24	17.15	19.11	20.14	22.12	17.91	20.90	16.95	19.80	16.77	17.39

PHTHISIS.—In the Table following is shewn the number of deaths from Consumption; they amount to 372 in comparison with 366 for the previous year.

TABLE XXX.  
*Death form Phthisis \**

WARDS.	QUARTERS.								Year 1897.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North ... ..	5	...	2	3	4	4	5	2	16	9	25
South ... ..	9	5	4	4	4	1	2	2	19	12	31
East ... ..	5	3	3	2	3	1	6	3	17	9	26
West ... ..	6	3	8	10	7	5	7	3	28	21	49
Listerhills ... ..	2	6	5	2	4	2	2	5	13	15	28
Great Horton ... ..	2	1	1	3	4	1	4	1	11	6	17
Little Horton ... ..	5	1	1	3	4	...	2	3	12	7	19
East Bowling ... ..	1	3	4	3	6	4	3	3	14	13	27
West Bowling ... ..	5	3	6	3	3	3	...	5	14	14	28
Exchange ... ..	4	4	1	...	3	1	1	1	9	6	15
Bradford Moor .	3	6	5	6	3	3	7	6	18	21	39
Manningham ... ..	5	7	5	8	3	7	3	4	16	26	42
Bolton ... ..	3	2	1	1	...	...	1	1	5	4	9
Heaton ... ..	1	3	1	2	1	1	...	1	3	7	10
Allerton ... ..	2	...	2	1	...	...	1	1	5	2	7
CITY TOTAL ... ..	58	47	49	51	49	33	44	41	200	172	372

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
..	1	3	2	2	6	13	36	81	89	84	55	372

\*Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XXXI.

*Deaths from other Tuberculous Diseases.\**

WARDS.	Tuberculous Diseases.		Tubes Mesenterica.		Hydrocephalus.		1897.		
	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North ... ..	5	2	1	2	...	...	6	4	10
South .. ...	4	5	3	2	...	...	7	7	14
East ... ..	...	3	2	...	...	...	2	3	5
West ... ..	1	2	2	...	...	...	3	2	5
Listerhills ... ..	6	7	...	...	...	...	6	7	13
Great Horton ... ..	3	4	...	...	...	...	3	4	7
Little Horton ... ..	4	4	...	...	...	...	4	4	8
East Bowling ... ..	8	6	...	2	...	1	8	9	17
West Bowling .. ...	4	5	...	...	...	...	4	5	9
Exchange ... ..	2	3	...	1	...	...	2	4	6
Bradford Moor ... ..	2	1	6	...	...	...	8	1	9
Manningham ... ..	12	4	1	...	...	...	13	4	17
Bolton ... ..	1	1	...	1	...	...	1	2	3
Heaton ... ..	8	4	...	...	...	...	8	4	12
Allerton ... ..	5	2	...	...	...	...	5	2	7
CITY TOTAL ... ..	65	53	15	8	...	1	80	62	142

\*Deaths in Public Institutions are referred to in the Wards from whence the patients came.

BRONCHITIS, PNEUMONIA AND PLEURISY.—These three chief diseases of the respiratory organs accounted for 650 deaths, 236 of which were those of children under 5 years of age. The respiratory death-rate was equal to 2·81 per 1000 of the population.

CANCER.—Table XXXII gives the number of deaths attributed to cancerous or other forms of malignant growths. There is seen to be a slow though steady increase in this class of disease.

TABLE XXXII.

*Synopsis of Deaths from Cancer during the Years 1888-97.*

	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Total No. of Deaths ...	129	137	129	142	159	129	146	182	182	188
Males ... ..	28	50	52	44	52	40	44	60	64	58
Females ... ..	101	87	77	98	107	89	102	122	118	130

VIOLENCE.—The deaths from violence amounted to 382, 21 of which were of children under 5 years of age. Of these deaths 42 were due to fractures and contusions, 21 to burns or scalds, 9 to accidental suffocation.

### Inquests.

Two hundred and twenty-eight (228) inquests were held by the City Coroner during the year, 56 of which were on children under 5 years of age.

### Uncertified Deaths.

The deaths of 49 persons were registered without Certification by a Medical Practitioner or Coroner, being 1·2 per cent. of the total deaths, the average percentage of uncertified deaths for the 33 great towns being 1·3 per cent.



TABLE XXXIII.

*Analysis of the Vital and Mortal Statistics of Thirty-three of the Largest English Towns during the Year 1897.*

TOWNS.	Estimated Population middle of 1897.	Births.	Deaths.	Annual Rate per 1,000 living.			Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Fever.	Diarrhoea.	Deaths of Children under 1 year of age to 1,000 Births.	Uncertified Deaths. Rate per cent. of
				Births.	Deaths.	Principal Zymotic Diseases.										
33 Towns ...	10,992,524	336,740	209,412	30.7	19.1	2.87	31,479	18	6,049	1,967	3,417	4,453	1,958	13,617	177	1.3
32 Provincial Towns	6,529,355	203,122	128,469	31.2	19.7	30.6	19,954	2	4,120	1,187	1,156	2,611	1,365	9,513	189	1.7
London ...	4,463,169	133,618	89,943	30.0	18.2	2.58	11,525	16	1,929	780	2,261	1,842	593	4,104	159	0.6
West Ham ...	273,682	8,779	4,273	32.2	15.7	2.62	714	...	140	30	101	99	48	296	172	2.7
Croydon ...	121,171	3,015	1,579	25.0	13.1	1.43	173	...	17	12	8	31	9	96	135	...
Brighton ...	121,401	2,986	1,823	24.7	15.1	1.64	108	...	17	12	12	25	22	110	144	0.8
Portsmouth ...	182,585	4,897	2,951	26.9	16.2	2.53	462	...	35	11	28	64	43	281	168	0.4
Plymouth ...	97,658	2,773	1,855	28.5	19.0	2.17	213	...	49	5	13	53	8	85	185	0.3
Bristol ...	232,242	6,430	3,984	27.8	17.2	1.83	425	1	57	18	35	116	47	151	149	0.9
Cardiff ...	170,063	5,279	2,534	31.1	14.9	2.19	372	...	75	17	90	34	21	135	151	0.9
Swansea ...	100,309	2,939	1,583	29.4	15.8	1.36	136	...	45	10	11	42	7	21	140	1.2
Wolverhampton ...	87,287	3,054	1,919	35.1	22.5	4.22	367	...	46	21	54	38	24	184	217	0.6
Birmingham ...	595,772	16,803	10,889	33.3	21.6	3.88	1,958	...	398	93	147	221	92	1,007	214	3.2
Norwich ...	110,154	3,354	2,062	30.5	18.8	2.21	243	...	3	11	10	47	32	140	194	1.5

Lester	203,599	6,200	3,580	30.0	17.7	3.13	037	...	14	71	73	82	39	358	205	2.4
Nottingham	232,934	6,717	4,363	28.9	18.8	2.81	652	...	48	36	21	113	49	385	206	1.1
Derby	103,291	2,792	1,651	27.1	16.0	1.91	197	...	17	10	9	22	26	113	168	...
Birkenhead	111,249	3,507	2,026	31.6	18.3	2.45	272	..	55	23	26	32	27	109	164	1.1
Liverpool	633,078	22,289	15,384	35.3	24.4	3.83	2,412	...	340	206	126	351	168	1,221	200	3.4
Bolton	121,433	3,942	2,660	32.5	22.0	4.02	486	...	215	23	6	41	25	176	186	0.2
Manchester	534,299	17,708	12,306	33.2	23.1	3.81	2,032	...	629	124	47	300	100	832	195	1.2
Salford	213,190	7,454	5,083	35.1	23.9	5.50	1,168	...	473	61	32	112	66	426	219	1.8
Oldham	145,845	3,793	2,789	26.1	19.2	2.61	378	...	97	20	11	77	20	153	183	0.2
Burnley	106,122	3,151	2,065	29.8	19.5	3.98	420	...	141	5	60	63	19	132	220	1.5
Blackburn	131,330	3,625	2,554	27.7	19.5	3.45	453	...	146	7	8	82	38	172	206	2.2
Preston	115,103	3,659	2,796	31.9	24.4	5.64	648	...	318	5	4	30	35	256	262	3.2
Huddersfield	101,454	2,366	1,659	23.4	16.4	1.50	150	...	27	32	20	21	15	35	131	2.8
Halifax	95,747	2,150	1,574	22.5	16.5	1.39	134	...	48	21	9	9	16	31	140	2.5
BRADFORD	231,260	5,678	4,023	24.55	17.39	2.23	518	...	77	9	10	42	31	349	179	1.2
Leeds	409,472	12,911	8,118	31.6	19.9	2.80	1,140	...	163	94	67	96	80	640	190	0.6
Sheffield	351,848	12,071	7,438	34.4	21.2	3.49	1,222	...	195	90	44	142	110	641	198	2.8
Hull	225,045	7,485	4,166	33.3	18.6	3.25	731	1	24	61	32	50	56	501	181	1.6
Sunderland	142,107	4,905	2,792	34.6	19.7	2.56	363	...	63	11	4	77	38	170	165	1.0
Gateshead	101,070	3,612	1,842	35.8	18.3	2.33	234	...	50	17	8	31	20	108	172	0.7
Newcastle-on-Tyne	217,555	6,791	4,141	31.3	19.1	2.09	452	...	74	21	25	61	34	217	178	0.9

## Disinfecting Station.

The following Table sets forth the work done in connection with the Disinfecting Station during 1897.

Houses fumigated ... .. 427

Articles disinfected :—

Beds ... ..	335	Trousers ... ..	48
Mattresses ... ..	129	Drawers ... ..	8
Pillows... ..	580	Dresses ... ..	57
Bolsters .. ...	247	Petticoats... ..	46
Blankets ... ..	502	Hose ... ..	28
Counterpanes .. ...	427	Dressing Gowns ... ..	3
Curtains ... ..	2	Shawls ... ..	90
Carpets... ..	15	Cushions ... ..	59
Rugs ... ..	25	Mats and Sundries ... ..	959
Coats ... ..	97		
Waistcoats .. ...	36		
		TOTAL ... ..	3693

Table A. shews that 578 new houses have been built during the year and certified as fit for habitation in accordance with the Bradford Waterworks and Improvement Act, 1875.

TABLE A.

*Shewing number of New Buildings certified as fit for habitation in each of the Wards, and in the whole City, during the years 1890—97.*

WARDS.	1890.	1891.	1892.	1893.	1894.	1895.	1896	1897.
North ... ..	9	...	64	43	8	11	2	17
South ... ..	104	104	69	35	16	1	6	11
East ... ..	77	20	49	98	54	45	26	66
West ... ..	3	...	3	4	9	...	...	6
Listerhills	173	72	30	17	13	3	48	31
Great Horton ...	67	59	37	53	106	134	70	173
Little Horton ..	15	40	42	4	19	21	33	1
East Bowling ...	31	61	48	60	78	15	18	45
West Bowling ...	187	98	59	103	115	58	72	49
Exchange ... ..	2	1	..	...	1	...	7	...
Bradford Moor	85	98	76	110	87	47	55	63
Manningham ...	130	125	116	148	44	67	94	55
Bolton ... ..	41	48	30	20	24	13	7	3
Heaton ... ..	98	31	35	65	18	34	10	36
Allerton ... ..	48	69	16	22	49	47	42	22
CITY TOTAL ..	1070	826	674	782	641	498	490	578

## Insanitary Dwellings.

The following houses having been certified as unfit for habitation were ordered by the City Council to be closed (Building Regulation, XVIII., Bradford Gas and Improvement Act, 1871).

26a, 40 and 50, Duncan Street.	1a, Clarenton Lane.
71 and 73, Caledonia Street.	34, 36 and 38, Wharfe Street.
13, Carr Syke, Frizinghall.	46, 68 and 70, Longcroft Place.
27 and 29, Eastbrook Lane.	2 and 4, Violet Court.
55, George Street.	2 and 4, Paul Street.
6, 3, 5, 9, 11, 13, 17 and 19, Dillon St.	17a, Acre Street.
1 and 3, Healey Street.	17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 and 28, Farrar Square.
41 and 43, Greenaire Place.	

Also the Cellar dwellings as follows :—

9, Tanhouse Yard.	13, Duncan Street.
16, Æolus Place.	75, George Street.

In four of the houses improvements satisfactory to the City Council were made, and the closing order subsequently revoked.



# REPORT

## OF THE

### CHIEF INSPECTOR OF

### NUISANCES.

TO THE MEDICAL OFFICER OF HEALTH,

SIR,—The following statement shews the nature and amount of work done in the Sanitary Department during the year 1897, including an abstract of work carried out in the previous nine years.

<i>Particulars of work done.</i>	<i>No of Cases.</i>									
	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Drains opened and cleansed ...	1011	1356	1298	1429	1178	1236	1518	1573	1710	1757
Drains provided for premises which had been previously without drainage ... ..	41	17	13	17	32	16	87	29	50	31
Sink drains disconnected from the sewer or otherwise effectually trapped ... ..	345	623	871	632	508	365	565	341	377	275
Street gullies cleansed .. ..	2976	2184	2867	3648	3602	4064	4831	4237	3927	5011
Water conductors provided and down spouts connected with the drains .. .. .	828	1062	1251	1143	1127	947	1977	2105	1980	1856
Swine and Swine Styes removed from objectionable situations	45	24	30	29	13	31	20	35	41	18
Fowls, etc., removed from dwelling-houses ... ..	99	162	219	114	127	87	144	113	90	70
Accumulations of offensive matter removed ... ..	187	479	596	689	399	257	317	409	497	513
Filthy Yards and Passages cleansed ... ..	416	484	578	1099	561	481	955	753	808	560
Surface of back yards and defective pavement repaired ...	143	219	270	191	199	287	395	335	433	432
Defective Water Closets repaired	114	236	100	111	137	216	310	549	763	534

<i>Particulars of work done.</i>	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Stagnant water removed from Ashpits ... ..	251	495	376	345	286	285	419	292	295	335
Privies and Ashpits repaired and provided with suitable doors and covers.	1051	1177	957	779	924	964	1623	1698	1505	1428
Foul Urinals repaired ...	30	32	35	20	13	46	32	47	73	33
Filthy Cellar Areas cleansed ...	131	80	81	84	74	57	85	79	80	53
Offensive Manure Pits removed	36	46	48	26	27	27	29	39	29	22
Defective Baths and Wash Basins repaired and disconnected from the drains.	124	35	54	25	59	51	77	49	55	48
Privies and Ashpits removed from objectionable positions and re-constructed on improved sites ... ..	334	370	391	265	196	2	291	40	67	...
New Water Closets erected ...	120	156	179	242	321	507	378	425	492	706
Stagnant Water drained off premises ... ..	133	130	132	92	83	132	190	238	166	195
Filthy Privies cleansed and lime-washed ... ..	1327	1198	1167	1148	1026	1063	1365	1129	922	705
Houses and Cellar Dwellings whitewashed ... ..	224	295	283	237	258	254	341	203	165	220
Houses and Cellar Dwellings disinfected ... ..	456	639	532	1081	779	1979	1015	451	392	414
Houses closed unfit for human habitation ... ..	...	5	16	13	8	1	20	1	61	37
Cellar Dwellings closed as unfit for human habitation ... ..	2	15	11	18	9	1	16	...	2	4
Workshops closed as unfit for human habitation ... ..	...	...	...	...	...	...	...	3	...	...
General repairs of houses ...	71	42	34	29	42	36	78	149	56	61
Improvement and Ventilation of premises by the removal of out-buildings, etc., from back yards ... ..	172	197	127	81	92	20	54	91	65	72
Abatement of Nuisances from over-crowding of houses, etc.	14	18	41	26	24	24	24	12	18	12
Foul Wells closed ... ..	...	...	...	...	2	...	2	2	6	2

<i>Particulars of work done.</i>	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.
Offensive businesses discontinued	1	2	...	2	2	1	...	...	...	...
Foul Mill Dams cleansed .. ..	1	1	2	1	1	4	...	2	2	1
Rag Warehouses cleansed ...	21	2	6	..	4	2	2	2	4	4
Tripe Boilers' premises inspected	343	209	88	107	86	112	243	44	475	431
Fellmongers' premises inspected	97	194	10	24	34	12	20	12	21	14
House inspected where infectious diseases have occurred ... ..	399	563	522	1148	1031	2606	2670	709	724	637
Bakehouses inspected ... ..	...	11	33	62	43	34	25	28	24	347
Mills and Workshops Closets inspected ... ..	...	...	..	1613	269	140	509	349	357	534

The above particulars represent only those cases where Statutory Notices have been served and do not include Nuisances prevented or abated on the verbal request of the Inspector.

The number of persons summoned for non-abatement of Nuisances after Notices given is 69.

Eight persons were summoned and convicted for continuing to occupy their houses after the same had been ordered by Notices to be closed as unfit for human habitation.

### Night Scavenging.

During the year the Contractors have according to the returns of the Sanitary Officers, emptied 94,996 ash-pits and removed therefrom 4,537 loads of soil, and 67,990 loads of rubbish, a total of 72,527 loads.

### Burial Grounds.

During the year 167 visits have been made by the Sanitary Officers to the various graveyards within the City, but no irregularities have been observed.

Owing to the utilization of portions of the North and South sides of the Burial ground attached to the Parish Church "St. Peters" for the purpose of restoration and enlargement of that

edifice, by an order of the Home Secretary the remains of 1,035 persons have been removed therefrom and the same re-interred at Undercliffe Cemetery, under the control and supervision of the Medical Officer of Health and Sanitary Officers.

### Dangerous and Unfenced Places.

Three hundred and nineteen place, including houses and other buildings have been reported by the Sanitary Officers as being in a dangerous condition. These have been dealt with and made secure from personal danger, either under the direction of the City Surveyor or the Chief Inspector of Nuisances.

### Public Urinals.

The number of Public Urinals within the City is 40, as against 38 last year.

During the year two Public Urinals have been erected, viz.: One at the junction of Bolling Hall Road and Rooley Lane by permission of the owners of the premises, Messrs Waller & Son, Limited, and one at Grosvenor Road by permission of David Mellor, Esq.

The Public Urinal erected last year at Great Horton Road on land belonging to the trustees of the late George Turner, Esq., has been removed, the site having been acquired for building purposes and the same has since been re-erected on land adjacent thereto by the kind permission of the Great Northern Railway Company who are owners of the land.

### Canal Boats.

There is only one Canal Boat registered within the City, and this, along with 219 others registered with other Authorities, but plying on the Canal within the City, has been examined by the Chief Inspector of Nuisances or his Assistant, Mr. Rhodes, and all boats inspected were free from bilge water, ventilation very good, and suitable provision for the storage of water for domestic use.

In 10 cases the boats were found to be not in accordance with the regulations, 5 having defective cabins, 2 having no certificate of registration on board, 2 being overcrowded in cabins, and 1 not lettered nor having any distinctive mark or marks thereon for the purpose of identification as required by the Registration Authority. The master of one boat was summoned before the Justices for allowing the cabin to be overcrowded, and a penalty of 5s. and 11s. costs was inflicted, failing payment 7 days imprisonment.

The owners of the other defective boats were formally notified by the Chief Inspector of Nuisances to have the boats thoroughly repaired and in future to conform strictly with the regulations, and accordingly the whole of the necessary repairs have since been carried out.

### Common Lodging Houses.

The number of Common Lodging Houses within the City is 41, the same as last year.

The houses contain 192 rooms for sleeping purposes, and are registered to accommodate 1935 persons nightly.

The number of persons who have been accommodated during the year is 454,228, the nightly average being 1,244.

The number of visits paid to these houses during the year is 1903, and their reports shew the houses to have been fairly well conducted.

### Adulteration of Food and Drugs.

During the year ending December, 1897, 265 samples of food have been submitted to the City Analyst by the Food Inspector for analysis. Of these 243 were certified by the Analyst as not adulterated and 22 were found to be adulterated, but the amount of adulteration was trivial and did not warrant proceedings against the offenders beyond being formally cautioned against a repetition of the offence.



The Food Inspector seized and destroyed 6 bags of turnips, 10 boxes of lettuce, 50 herrings, 26 bags of mussels, 6 boxes and 1 kit of haddocks, 27 boxes of hake, 2 bags of whelks, 2 baskets of shrimps, 6 bags of beast offal, 7 bags of cockles, 2 boxes of bream, 32 couples of rabbits, 1 barrel of cod fish, and 1 basket of pears.

The following table shews the nature of articles submitted for analysis :—

*REPORT for Year ending December, 1897.*

NATURE OF FOOD.	Total.	Pure.	Adulterated.	Cautioned.
Milk ... ..	173	163	9	9
Butter ... ..	10	10	...	...
Lard ... ..	11	11	...	...
Milk of Sulphur ... ..	6	6	...	...
Flour ... ..	2	2	...	...
Sugar ... ..	4	4	...	...
Coffee ... ..	2	1	1	1
Whisky . . . .	6	5	1	1
Gin ... ..	1	1	...	...
Sweets ... ..	10	10	...	...
Coca Wine ... ..	2	2	...	...
Jam ... ..	1	1	...	...
Pepper ... ..	1	1	...	...
Powdered Ginger ... ..	1	1	...	...
Parsley ... ..	10	10	...	...
Sage ... ..	1	1	...	...
Thyme ... ..	1	1	...	...
Tincture of Rhubarb ... ..	1	1	...	...
Glycerine ... ..	2	2	...	...
Olive Oil ... ..	1	1	...	...
Castor Oil ... ..	1	1	...	...
Camphorated Oil ... ..	1	1	...	...
Cream of Tartar ... ..	1	1	...	...
Paregoric ... ..	1	...	1	1
Spirits of Nitre ... ..	2	1	1	1
Cough Syrup .. .	1	1	...	...
Pink Pills ... ..	1	1	..	...
Honey ... ..	2	2	...	...
Chewing Gum ... ..	9	...	9	9
TOTALS ... ..	265	243	22	22

## Dairies, Cow-sheds, and Milk-shops.

There are at present registered under "the Contagious Diseases (Animals) Act, 1878, 244 Cow-sheds, and 1088 Dairies, Milk-shops, and Purveyors of Milk, as against 246 and 1068 respectively last year.

During the year, 107 applications have been made for registration of premises for the sale of milk, and upon inspection by the Medical Officer of Health or the Dairies and Cow-sheds Inspector 20 of these were found to be suitable and were registered accordingly. Forty-seven milk dealers have during the year voluntarily given up their premises which were found to be unsuitable and have since been registered for other premises more compatible with the proper preservation of the cleanliness of the milk and milk vessels used therein.

Inspection has frequently been made as heretofore of the milk and milk vessels coming into the City by railway and otherwise from places beyond the City boundaries and numerous samples thus delivered have been taken by the Food Inspector and the results (with a few exceptions) shew the milk to have been genuine and of good quality.

Two milk dealers whose milk vessels were found to contain colouring matter for the purpose as alleged of improving the appearance of the milk, appeared before the Sanitary Committee and were cautioned against repeating the offence.

Four milk dealers whose milk vessels were found to be in a dirty condition were formally warned.

The Committee as heretofore have inspected a number of Cow-sheds and Milk-shops, and where the sanitary condition was found to be at all defective instructions were given for the issuing of notices requiring the requisite improvements to be carried out, with the result that 3 Cow-sheds and farm buildings which were in defective sanitary condition have been put into good repair.

Special attention has again been paid to the Fried Fish Shops and Ice Cream makers' premises within the City and many improvements have been effected in regard to cleanliness and general condition of these places and in the manipulation of the commodities produced thereat.

The number of visits and inspections made by the Officers has been as follows :—Cow-sheds, 897 ; Milk shops, 2990 ; and milk vessels, 1684.

### Inspection of Meat, Slaughter-houses, Potted Meat and Sausage Manufactories.

There have been 42 seizures and 104 surrenders of unsound meat, fish, and fruit. In three cases the offenders were summoned before the Justices on separate charges for exposing for sale a quantity of rabbits, beef, and veal which were unfit for human food and penalties and costs amounting in the aggregate to £10 4s. were inflicted.

There have been seized and destroyed 4,190 lbs. of beef, 675 lbs. of pork, 230 lbs. of veal, 520 lbs. of mutton, 20 bags of cockles, 4 bags of onions, 32 rabbits, 3 bags of oysters, 38 boxes of smelts, 11 bags of mussels, 12 turkeys, and 3 barrels of herrings.

There have been surrendered and destroyed 6,700 lbs. of beef, 530 lbs. of mutton, 1,276 lbs. of veal, 2,782 lbs. of pork, 5 barrels of codfish, 169 boxes of kippers, 96 bags of mussels, 6 tons of haddocks, 33 baskets of strawberries, 15 barrels of bloaters, 4 baskets of shrimps, 19 couples of rabbits, 1 box of mushrooms, 2 barrels of herrings, 36 boxes of hake, 6 boxes of finnon haddock, 2 bags of whelks, 19 bags of cockles, 26 brace of partridge, and 1 bag of oysters.

The above seizures and surrenders are exclusive of those made by and specified in the Food Inspector's Report.

The number of slaughterhouses under the old regulations is 7, and there are 4 others for which licenses have to be applied for annually.

The number of places at which Potted Meat and Sausages are made is 81, as against 76 last year, and these together with the private slaughter-houses are regularly visited and reported upon by the Inspectors.

The number of visits made during the year has been as follows :—Private Slaughter-houses, 354 ; Potted Meat and Sausage Works, 1,296. The Public Abbatoirs are visited daily.

### Cattle Disease.

During the year there have been five outbreaks of Swine Fever within the City, all of which were duly notified by the Sanitary Department to the Board of Agriculture, whose officers took charge both of the infected animals and premises, and also gave customary notices to the respective owners and occupiers as required by the Orders in Council.

### “ Shop Hours Act ” :—Workshops and Bakehouses.

The number of shops visited by the Inspector during the year is 2146. In 1133 of these young persons were found to be employed and 532 of these shopkeepers failed to comply with Section 4 of the Act by not exhibiting the necessary notice stating the number of hours which a young person may be employed in a shop. Each of these shopkeepers was supplied with the abstract of “ The Shop Hours Act ” and requested to keep the same posted where young persons are employed on their premises.

Seven young persons were found to have been employed over 74 hours in one week. Nineteen young persons were found employed in shops having previously on the same day been employed in a factory or Workshop for the full number of hours



allowed by "The Factory and Workshops Act." Thirteen of these young persons were employed in the Market Hall, Kirkgate.

All the above cases were first offences and in each case the employers were duly cautioned

The Inspector under "The Shop Hours Act" also visited workshops and bakehouses as follows :—

Bakehouses and Confectioners	...	...	...	347
Dress and Mantle Makers	...	...	...	96
Milliners	...	...	...	58
Blouse Makers	...	...	...	9
Tailors	...	...	...	201
Boot and Shoe Makers and Cloggers	...	...	...	52
Hosiery Knitters	...	...	...	7
Burlers	...	...	...	8
Joiners, Cabinet Makers and Wood Carvers	...	...	...	88
Shoeing and General Smiths	...	...	...	46
Rag Sorters	...	...	...	11
Basket Makers	...	...	...	4
Brush Makers	...	...	...	11
Plumbers	...	...	...	10
Tin Plate Workers	...	...	...	38
Wheelwrights	...	...	...	12
Brassfounders	...	...	...	4
Picture Framers	...	...	...	7
Coopers	...	...	...	4
French Polishers	...	...	...	4
Paper Bag Works	...	...	...	4
File Makers	...	...	...	4
Wire Workers	...	...	...	3
Various	...	...	...	48
Total	...	...	...	<u>1076</u>

Sixty-eight workshops were found without regulations. These were duly notified to Her Majesty's Inspector of Factories and Workshops.

Forty-two Workshops and 23 Bakehouses were found in a dirty condition. The occupiers of these places were requested to have their premises cleansed and limewashed. In most cases this was immediately done on attention being drawn to the matter.

Ten occupiers of underground premises brought into use as bake-houses since January, 1896, have been requested to discontinue using the premises for the purpose, as required by "the Factory and Workshops Act, 1895."

Six workshops were found without any closet accommodation, and the provision of separate accommodation was found necessary in ten cases.

Five cases were found of persons sleeping in a room which during the day is used as a workshop.

Three cases of overcrowding in workshops have been dealt with satisfactorily.

All nuisances in and adjoining workshops have been referred to the Chief Inspector.

Yours obediently,

JAS. CHAMBERS,

*Chief Inspector.*

# REPORT

## ON

### DESTRUCTOR WORKS.



TO THE MEDICAL OFFICER OF HEALTH,

SIR, — I beg to submit the following report of work done at the various Destructor's during the year 1897.

#### Hamerton Street.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	...	...	17,819	loads.
Market „	...	...	1,123	„
Shop „	...	...	1,696	„
Total	...		<u>20,638</u>	<u>loads</u>

As against a total of 23,757 loads destroyed last year.

There has also been destroyed the carcasses of 17 beasts, 701 stones of beef, 31 calves, 22 sheep, 58 pigs, 2 goats, 2 deers, 1 horse, 102 tongues, 26 brace of partridges, 13 turkeys, 14 hares, 38 couples of rabbits, 2 bags of tripe, 5 cases of eggs, 98 bags of cockles and mussels, 8 cases of currants, 23 barrels of grapes, 32 boxes of strawberries, 36 boxes of tomatoes, 5 barrels of pears, 10 boxes of lettuce, 859 dogs, 118 cats, 55 beds, and 320 mattresses.

5,060 tons of mortar, and 3,450 loads of clinker have been sold during the year.

As against 4,159 tons, and 2,826 loads last year.

The whole of the cells have been reconstructed by the Horsfall Furnace Syndicate (Limited) on their principle, and are now in full working order.

The whole of the residuals at this Destructor are now being utilized in some form or another.

The fish refuse works continues to be carried out in a satisfactory manner.

### Sunbridge Road.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	...	...	16,488	loads.
Market	„	...	607	„
Shop	„	...	596	„
Total			<u>17,691</u>	loads

As against a total of 17,507 loads last year.

There has also been destroyed the carcasses of 1 beast, 1 calf, 42 pigs, 19 dogs, 7 beds, and 114 mattresses.

1330 tons of mortar have been sold, as against 1294 tons last year.

### Southfield Lane.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	...	...	11,070	loads.
Shop	„	...	2	„
Total			<u>11,072</u>	loads

As against a total of 9879 loads last year.

There has also been destroyed the carcasses of 1 calf, 1 sheep, 17 pigs, 17 dogs, 7 beds and 75 mattresses.

## Cliffe Road.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	...	...	16,099	loads.
Market „	...	...	440	„
Shop „	...	...	114	„
			<hr/>	
Total	...		16,653	loads
			<hr/>	

As against a total of 12,954 loads last year.

These has also been destroyed the carcasses of 4 pigs, 1 goat, 21 couples of rabbits, 2 fowls, 4 tons of turnips, 3 tons of beans, 73 dogs, 92 cats, 15 beds, and 141 mattresses.

1513 tons of mortar have been sold, as against 17 tons last year.

A clinker crushing machine is now being erected at Cliffe Road Destructor, and it is expected that the whole of the residuals will shortly be utilized in various forms.

Yours obediently,

JOHN McTAGGART.





# TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS,

Coming to the knowledge of the Medical Officer of Health, during the year 1897, in the Urban Sanitary District of Bradford, classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics.	POPULATION AT ALL AGES.		Registered Births.	Aged under 5 or over 5	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.												NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.											
	Census 1891.	Estimated to middle of 1897.			I	2	3	4	5	6	7	8	9	10	11	TOTALS.	I	2	3	4	5	6	7	8	9	10	11	TOTAL S.
(a)	(b)	(c)	(d)	(e)	Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	TOTAL S.	
North ... ..	12783	13663	348	Under 5 ... .. 5 and upwards	...	6 7	...	1 ..	...	...	...	...	...	...	1 11	8 22	...	6 6	...	...	...	...	...	...	...	...	...	6 9
South (H) ... ..	13124	14028	438	Under 5 ... .. 5 and upwards	...	...	...	...	...	1 14	...	...	...	1 ..	1 4	2 21	...	...	...	...	...	1 6	...	...	...	...	...	1 6
East ... ..	15583	16656	401	Under 5 ... .. 5 and upwards	...	5 7	...	...	...	...	...	...	...	...	1 8	6 21	...	...	...	...	...	...	...	...	...	...	1 6	
West ... ..	14216	15189	303	Under 5 ... .. 5 and upwards	...	11 21	...	1 ...	...	...	...	...	...	1 ..	1 18	13 53	...	10 16	...	...	...	...	...	...	...	...	10 28	
Listerhills ... ..	18696	19985	402	Under 5 ... .. 5 and upwards	...	7 21	...	...	...	2 9	...	...	...	...	...	9 49	...	4 17	...	...	...	1 8	...	...	...	...	5 25	
Great Horton .. ..	14768	15791	371	Under 5 ... .. 5 and upwards	...	11 26	1 3	1 ...	...	...	...	...	...	...	1 7	14 47	...	8 16	...	...	...	...	...	...	...	...	8 18	
Little Horton ... ..	15306	16358	437	Under 5 ... .. 5 and upwards	...	6 14	1 2	...	...	...	...	...	...	...	1 11	8 44	...	6 11	...	...	...	...	...	...	...	...	6 18	
East Bowling ... ..	16068	17170	502	Under 5 ... .. 5 and upwards	...	1 9	1 2	...	...	...	...	...	...	...	...	2 32	...	...	...	...	...	...	...	...	...	...	...	
West Bowling ... ..	17250	18439	451	Under 5 ... .. 5 and upwards	...	12 30	...	4 4	...	...	...	...	...	...	1 15	17 66	...	4 23	...	...	...	...	...	...	...	...	4 32	
Exchange ... ..	4846	5158	125	Under 5 ... .. 5 and upwards	...	...	1 1	...	...	...	...	...	...	...	2 4	3 8	...	1 1	1 ...	...	...	...	...	...	...	...	2 3	
Bradford Moor .. ..	17520	18727	516	Under 5 ... .. 5 and upwards	...	3 4	...	...	...	...	...	...	...	...	...	3 30	...	2 3	...	...	...	...	...	...	...	...	2 11	
Manningham ... ..	22469	24018	615	Under 5 ... .. 5 and upwards	...	13 36	...	...	...	...	...	...	...	...	2 22	15 76	...	8 24	...	...	...	...	...	...	...	...	8 28	
Bolton ... ..	8425	9005	194	Under 5 ... .. 5 and upwards	...	10 9	...	1 1	...	1 5	...	...	...	...	...	12 21	...	5 4	...	...	...	1 4	...	...	...	...	6 9	
Heaton ... ..	16108	17218	342	Under 5 ... .. 5 and upwards	...	15 35	...	...	...	...	...	...	...	...	1 9	16 55	...	8 26	...	...	...	...	...	...	...	...	8 31	
Allerton ... ..	9199	9832	233	Under 5 ... .. 5 and upwards	...	4 5	...	1 ...	...	...	...	...	...	...	2 15	7 30	...	2 2	...	1 ...	...	...	...	...	...	...	3 6	
CITY TOTALS ... ..	216361	231260	5678	Under 5 ... .. 5 and upwards	...	104 227	4 24	9 2	...	4 145	...	...	...	...	14 157	135 575	...	65 157	1 3	1 1	...	3 76	...	...	...	...	70 241	





TABLE OF DEATHS DURING THE YEAR 1897,  
In the Urban Sanitary District of Bradford, classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics.	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.							(i)	MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upw'ds. (h)		1 Small-pox.	2 Scarlatina.	3 Diphtheria.	4 Membranous Croup.	5 Typhus.	FEVERS.					10 Cholera.	11 Erysipelas.	12 Measles.	13 Whooping Cough.	14 Diarrhoea and Dysentery.	15 Rheumatic Fever.	16 Phthisis.	17 Bronchitis, Pneumonia and Pleurisy.	18 Heart Disease.	19 Pyæmia.	20 Injuries.	21 All other Diseases.	22 Totals.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
														Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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† Public Institutions included.







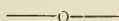
# REPORT

## ON THE

# WORK OF THE CITY HOSPITAL

## FOR

# INFECTIOUS DISEASES.



During 1897 there were 317 patients admitted to the Hospital, which with 35 remaining in Hospital at the end of the previous year constitute a total of 352 patients who have passed through the Wards.

The cases of Scarlet Fever admitted amounted to 226, 5 only of which ended fatally.

There were 74 cases of Enteric Fever admitted, 11 of which proved fatal.

Of other diseases, including Diphtheria and Erysipelas 17 cases were admitted, 8 of which terminated fatally.

The Tabular Statements following give information in more detail.

*TABLE A.—General Statement.*

Remaining in Hospital 31st December, 1896	...	...	35
Admitted during 1897	...	...	317
			<u>352</u>
Discharged, relieved, or cured	...	...	292
Died	...	...	24
Remaining in Hospital 31st December, 1897	...	...	36
			<u>352</u>

TABLE B.—SCARLET FEVER.

*Showing Admission, Deaths, and Percentage Mortality for the  
year 1897.*

AGE.	MALES.		FEMALES.		TOTAL.		
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.	Death Rate.
Under 1	...	...	1	...	1	..	...
1—2	4	1	1	...	5	1	20·0
2—3	9	...	7	...	16	...	...
3—4	16	...	8	1	24	1	4·1
4—5	3	...	13	...	16	...	...
Total under 5	32	1	30	1	62	2	3·2
5—10	50	2	58	1	108	3	2·7
10—15	19	...	21	...	40	...	...
15—20	4	...	5	...	9	...	...
20—25	...	...	3	...	3	...	...
25—30	...	...	2	...	2	...	...
30—35	1	...	1	...	2	...	...
TOTAL ...	106	3	120	2	226	5	2·21

TABLE C.—ENTERIC FEVER.

*Showing Admissions, Deaths, and Percentage Mortality for  
the Year 1897.*

AGE.	MALES.		FEMALES.		TOTAL.		
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted	No. Died.	Death Rate.
Under 5	2	...	...	...	2	...	...
5—10	4	...	5	...	9	...	...
10—15	5	...	5	...	10	...	...
15—20	7	1	10	1	17	2	11.7
20—25	11	3	5	1	16	4	25.0
25—30	3	...	2	...	5	...	...
30—35	9	1	...	...	9	1	11.1
35—40	...	...	1	...	1	...	...
40—50	4	3	1	1	5	4	80.0
TOTAL ...	45	8	29	3	74	11	14.8

TABLE D.

*Showing Number of Cases admitted during each month of 1897.*

1897.	Scarlet Fever.			Enteric Fever.			Other Diseases.			Total Admissions.		
Months.	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total.
January ...	4	12	16	5	3	8	1	...	1	10	15	25
February ...	6	10	16	1	3	4	1	3	4	8	16	24
March ...	13	5	18	...	3	3	...	2	2	13	10	23
April ...	2	3	5	2	3	5	...	...	...	4	6	10
May ...	12	10	22	5	1	6	1	...	1	18	11	29
June ...	6	22	28	1	...	1	...	...	...	7	22	29
July ...	11	18	29	...	1	1	1	...	1	12	19	31
August ...	6	10	16	5	...	5	1	1	2	12	11	23
September ...	12	9	21	5	4	9	1	...	1	18	13	31
October ...	17	15	32	5	2	7	1	..	1	23	17	40
November ...	4	1	5	10	7	17	1	1	2	15	9	24
December ...	13	5	18	6	2	8	1	1	2	20	8	28
TOTAL ..	106	120	226	45	29	74	9	8	17	160	157	317



# SUMMARY.

YEAR.	SMALL-POX.			ENTERIC FEVER.			SCARLET FEVER.			OTHER DISEASES.			TOTALS.			FROM 1872 TO 1897.	
	Cases.	Deaths.	Death-rate per 100	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Aggregate No. of days spent in Hospital.	Average No. of days for each Patient.
1872	63	6	9.5	48	9	18.7	14	...	...	37	6	16.2	162	21	13.01	4,546	28
1873	94	15	16.0	54	16	29.7	19	1	5.2	36	7	18.9	203	29	14.28	6,211	30½
1874	249	48	19.27	51	11	21.56	58	6	10.34	53	12	22.6	412	76	18.44	11,715	28½
1875	20	2	10.0	44	6	13.59	103	19	18.4	37	3	8.1	204	30	13.59	6,275	30½
1876	12	...	...	40	5	12.5	35	9	26.0	26	5	19.2	113	19	18.8	2,876	27½
1877	19	4	21.05	65	13	20.0	72	9	12.5	27	8	29.6	183	34	18.5	5,579	31½
1878	5	1	20.0	55	13	23.6	148	17	11.5	27	3	11.1	237	34	14.3	9,263	39
1879	8	...	...	24	3	12.5	159	14	8.8	23	4	17.39	214	21	9.8	8,414	39
1880	2	1	50.0	60	8	13.3	248	38	15.3	54	7	12.9	364	54	14.8	13,192	36½
1881	21	2	9.5	61	7	11.5	317	42	13.2	27	...	...	426	51	11.97	16,073	37½

1882	26	3	8.8	88	17	19.3	213	31	14.5	39	5	12.8	366	56	15.32	14,766	40
1883	5	...	...	119	17	14.2	233	17	7.2	23	2	8.6	375	36	9.6	15,949	42½
1884	3	...	..	93	17	18.2	237	11	4.6	29	4	13.7	362	32	8.8	14,215	39½
1885	28	2	7.14	89	6	6.74	456	19	4.16	23	8	34.7	596	35	5.89	21,391	36
1886	4	..	...	83	8	9.63	625	29	4.64	14	2	14.3	725	39	5.37	29,305	40½
1887	3	...	...	79	7	8.86	830	21	2.27	9	5	55.5	921	33	3.58	38,609	42¼
1888	16	2	12.5	57	6	10.53	283	12	4.24	11	1	9.9	367	21	5.72	16,479	46
1889	9	1	11.11	90	26	28.89	355	40	11.27	36	6	16.67	490	73	14.90	21,315	43½
1890	..	...	...	59	11	18.64	380	22	5.78	43	12	27.90	484	45	9.30	10,940	41¼
1891	...	...	...	76	15	19.6	780	83	10.6	39	10	25.6	897	108	12.04	39,838	44
1892	25	4	16.6	41	11	26.8	587	27	4.6	32	7	21.8	685	49	7.2	29,191	42½
1893	935	100	10.6	11	4	36.3	228	17	7.8	12	1	8.3	1186	122	10.2	34,203	28.8
1894	...	...	...	42	8	19.0	525	30	5.7	16	...	..	583	38	6.5	27,124	46.5
1895	...	...	...	97	20	20.6	250	16	6.4	28	9	32.14	375	45	12.0	17,331	46.21
1896	...	...	...	77	15	19.4	248	14	5.6	21	6	28.5	346	35	10.1	17,368	50.1
1897	...	...	...	74	11	14.8	226	5	2.21	17	8	47.05	317	24	7.5	14,549	45.8

## APPENDIX I.

*Mean Daily Temperature of the Earth at depths of 1 foot and 4 feet and daily number of Deaths from Diarrhœa from July 15th to October 31st, 1897.*

DATE.		Ground Temperature in degrees Fahrenheit.		Number of Deaths from Diarrhœa.
		1 Foot.	4 Feet.	
July	15	58	52½	...
„	16	58½	52½	...
„	17	59	53	...
„	18	58½	53½	...
„	19	58½	53½	1
„	20	58½	53½	...
„	21	58½	53½	1
„	22	58½	53½	3
„	23	59	54	2
„	24	59	54	3
„	25	59	54	2
„	26	59	54	1
„	27	58½	54½	1
„	28	58½	54½	1
„	29	58	54½	1
„	30	58½	54½	4
„	31	58½	54½	3
August	1	60	55	4
„	2	60½	55	5
„	3	61	55	4

## APPENDIX I.—continued

DATE.	Ground Temperature in degrees Fahrenheit.		Number of Deaths from Diarrhœa.
	1 Foot.	4 Feet.	
August 4	61½	55½	4
„ 5	61½	55½	1
„ 6	61½	55½	9
„ 7	61½	55½	8
„ 8	60½	56	6
„ 9	60	56	10
„ 10	60	56	10
„ 11	60	56	7
„ 12	60	56	9
„ 13	59½	56	10
„ 14	58½	56½	10
„ 15	58½	56½	16
„ 16	57½	56½	8
„ 17	58	56½	8
„ 18	58	56½	9
„ 19	58	56½	11
„ 20	57½	56	7
„ 21	57½	56	5
„ 22	57	56	7
„ 23	57	56	3
„ 24	56½	56	3
„ 25	57	56	7
„ 26	57½	56	5
„ 27	57½	56	7

## APPENDIX I.—continued.

DATE.	Ground Temperature in degrees Fahrenheit.		Number of Deaths from Diarrhœa.
	1 Foot.	4 Feet.	
August 28	57	56	6
„ 29	57	56	3
„ 30	57	56	4
„ 31	57	56	8
September 1	56½	56	4
„ 2	56	56	6
„ 3	56	56	2
„ 4	55	56	7
„ 5	54	56	5
„ 6	54	56	5
„ 7	54	55½	5
„ 8	53½	55	2
„ 9	53½	55	5
„ 10	53½	55	1
„ 11	53½	55	3
„ 12	53½	55	6
„ 13	54	55	...
„ 14	55	54½	3
„ 15	55	54½	1
„ 16	55	54½	2
„ 17	54	54½	1
„ 18	54	54½	1
„ 19	53	54½	4
„ 20	52½	54½	2



## APPENDIX I—continued.

DATE.	Ground Temperature in degrees Fahrenheit.		Number of Deaths from Diarrhœa.
	1 Foot.	4 Feet.	
September 21	52 $\frac{1}{2}$	54 $\frac{1}{2}$	2
„ 22	52 $\frac{1}{2}$	54 $\frac{1}{2}$	1
„ 23	52 $\frac{1}{2}$	54	1
„ 24	53	54	1
„ 25	53	54	...
„ 26	53	54	2
„ 27	53	54	1
„ 28	52 $\frac{1}{2}$	54	3
„ 29	52 $\frac{1}{2}$	54	2
„ 30	52 $\frac{1}{2}$	54	1
* October 1	52 $\frac{1}{2}$	53 $\frac{1}{2}$	3
„ 2	52 $\frac{1}{2}$	53 $\frac{1}{2}$	2
„ 3	52 $\frac{1}{2}$	53 $\frac{1}{2}$	2
„ 4	52 $\frac{1}{2}$	53 $\frac{1}{2}$	1
„ 5	52	53 $\frac{1}{2}$	...
„ 6	51 $\frac{1}{2}$	53 $\frac{1}{2}$	1
„ 7	51	53 $\frac{1}{2}$	...
„ 8	50 $\frac{1}{2}$	53	...
„ 9	50 $\frac{1}{2}$	53	...
„ 10	50	53	...
„ 11	50	53	...
„ 12	50	53	...
„ 13	49	53	...
„ 14	49	52 $\frac{1}{2}$	...

## APPENDIX I—continued.

DATE.		Ground Temperature in degrees Fahrenheit.		Number of Deaths from Diarrhœa.
		1 Foot.	4 Feet.	
October	15	48 $\frac{1}{2}$	52 $\frac{1}{2}$	...
"	16	48	52	...
"	17	48	51 $\frac{1}{2}$	...
"	18	50	52	...
"	19	50	52	...
"	20	50	52	...
"	21	50	52	...
"	22	49 $\frac{1}{2}$	51 $\frac{1}{2}$	...
"	23	49 $\frac{1}{2}$	51 $\frac{1}{2}$	...
"	24	49	51 $\frac{1}{2}$	...
"	25	49	51 $\frac{1}{2}$	...
"	26	48 $\frac{1}{2}$	51	...
"	27	48 $\frac{1}{2}$	51	..
"	28	48 $\frac{1}{2}$	51	...
"	29	48	51	...
"	30	48	51	1
"	31	48	51	...

# APPENDIX II.

## BRADFORD UNION.—Vaccination Report for the Year 1896.

ABSTRACT OF RETURNS made on the 8th day of February, 1898, by the Vaccination Officers of the Bradford Union, respecting the Vaccination of Children whose Births have been Registered from January 1st, 1896, to December 31st, 1896, inclusive.

Registration— Sub-Districts.	Number of Births registered from 1st Jan., 1896, to 31st Dec., 1896.	Number of these Births duly entered by 8th February, 1898, in "Vaccination Register."						Per centage of cases finally accounted for to total Births.	Number of these Births which on 8th Feb., 1898, remained unentered in the "Vaccination Register" on account (as shewn by Report Book) of		All cases not accounted for in preceding columns.		
		Col. 10. "Successfully Vaccinated."	Col. 11.		Col. 13. "Dead Unvaccinated."	Total duly entered in the Register as finally accounted for.	Postpone-ment by Medical Certificate		Removals and Cases not found.				
			"Insus-ceptible of Vaccina-tion."	"Had Small Pox."									
1	2	3	4	5	6	7	8	9	10	11	12	13	
1. Bowling ...	1010	653	2	...	92	747	73·96	...	40	...	...	...	223
2. Bradford East	1760	969	7	...	240	1216	69·09	43	175	...	...	...	326
3. Bradford West	1483	876	3	...	181	1060	71·48	7	127	...	...	...	289
4. Horton ...	1267	551	11	...	150	712	56·20	9	86	...	...	...	460
TOTAL ...	5520	3049	23	...	663	3735	67·66	59	428	—	—	—	1298

### APPENDIX III.

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### BACTERIOLOGICAL REPORT.

---

TO THE MEDICAL OFFICER OF HEALTH,

DEAR SIR,—During the year ending December 31st, 1897, I made microscopical and bacteriological examinations in the following cases :—

Scarlatina	...	...	...	...	73 cases.
Diphtheria	...	...	...	...	6 „
Enteric Fever (blood)	...	...	...	...	3 „
Anthrax	...	..	...	...	3 „
Cholera (English)	...	...	...	...	1 case.
Whooping Cough	...	...	...	...	1 „
Other diseases of the throat	...	...	...	...	7 cases.

Yours faithfully,

F. W. RICHARDSON.

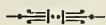








CITY OF BRADFORD.



REPORT

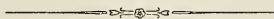
ON THE

Health of Bradford

FOR THE YEAR 1898,

BY THE

MEDICAL OFFICER OF HEALTH.



BRADFORD:

M. FIELD & SONS, SOUTHGATE PRINTING WORKS.



# Sanitary Committee, 1898

*(Meets every Wednesday at 5 p.m.)*

---

## THE WORSHIPFUL THE MAYOR

MR. ALDERMAN F. W. JOWETT, Chairman

MR. COUNCILLOR P. SMITH, Deputy Chairman

MR. ALDERMAN HARDAKER	MR. ALDERMAN POPPLEWELL
„ LISTER	„ PRATT
MR. ALDERMAN ROBINSON	
MR. COUNCILLOR AKAM	MR. COUNCILLOR HUTTON
„ BURKE	„ JOHNSON
„ CRABTREE	„ MILNER
„ CROFT	„ MOORHOUSE
„ CROSSLAND	„ MOSER
„ DAWSON	„ O'FLYNN
„ DIXON	„ ABRAM PEEL
„ DOBBY	„ PRIESTLEY
„ FOSTER	„ PRIESTMAN
„ FREEMAN	„ ROBINSON
„ GRAY	„ S. SMITH
„ GREENWOOD	„ TROTTER
„ HARTLEY	„ WADE
„ HAYHURST	„ WILKINSON
„ HORSFALL	„ WILLIAMSON
MR. COUNCILLOR H. S. WRIGHT	

## City Hospitals Committee, 1898.

*(Meets last Tuesday in each month.)*

MR. ALDERMAN F. W. JOWETT, Chairman

MR. COUNCILLOR P. SMITH, Deputy Chairman

MR. ALDERMAN LISTER

,, POPPLEWELL

,, PRATT

,, ROBINSON

MR. COUNCILLOR BURKE

,, CROSSLAND

,, DAWSON

,, DOBBY

,, FOSTER

,, FREEMAN

,, GRAY

,, HAYHURST

,, HORSFALL

,, MILNER

,, MOSER

,, PRIESTMAN

,, ROBINSON

,, WILLIAMSON



## Staff of Health Department.

---

W. ARNOLD EVANS, M.D., Medical Officer of Health  
 JAS. T. KITCHIN, M.D., Superintendent of City Hospitals  
 F. W. RICHARDSON, Bacteriologist and Public Analyst  
 JAS. CHAMBERS, Chief Inspector of Nuisances  
 J. HEMINGWAY, Meat Inspector  
 H. RAISTRICK, Assistant Meat Inspector  
 G. H. BRAYSHAW, Food and Drugs Inspector  
 T. W. CALVERT, Inspector under Shop Hours' Act  
 J. P. GREENWOOD, Sub-Inspector of Nuisances  
 T. H. RAMSDEN,                ,,                ,,  
 H. DRAKE,                     ,,                ,,  
 R. YEADON,                   ,,                ,,  
 H. E. WYNN,                  ,,                ,,  
 T. ELLISON,                  ,,                ,,  
 R. PARKER,                  ,,                ,,  
 S. HARRISON,                ,,                ,,  
 H. SIMPSON,                 ,,                ,,  
 C. SUTCLIFFE, Disinfecting Officer  
 J. McTAGGART, Manager of Destructor Works  
 J. CROWTHER, Statistical Clerk  
 G. H. BRAMFITT, Clerk  
 R. WALTON, Junior Clerk  
 W. MARGERISON, Junior Clerk

---

In addition to the above the Medical Officer of Health is assisted in the Inspection of New Buildings by the following officers under the Building Committee:—

T. PRESTON, Chief Building Inspector  
 H. E. CRAVEN, Assistant Building Inspector  
 I. INGHAM,                 ,,                ,,                ,,  
 F. GLEDHILL,             ,,                ,,                ,,

# INDEX.

---

	PAGE.
Adulteration of Food ... ..	42
Ages at Death ... ..	9
Articles Disinfected ... ..	34
Ashpit Cleansing Department ... ..	48
Bacteriological Report ... ..	54
Bakehouses ... ..	46
Births ... ..	4
Birth-rates in Wards ... ..	5
Bronchitis ... ..	33
Burial Grounds ... ..	40
Canal Boats ... ..	40
Cancer, Deaths from ... ..	34
Cattle Disease ... ..	46
Chief Inspector's Report ... ..	37
Common Lodging Houses ... ..	41
Cow Sheds ... ..	44
Dairies ... ..	44
Dangerous Places ... ..	40
Deaths ... ..	6
Death-rates in Wards ... ..	9
Decrease in Chief Diseases ... ..	7
Density of Population ... ..	2
Destructors ... ..	49
Diarrhoea ... ..	20
Diphtheria ... ..	18
Disinfecting Station ... ..	34
Fever Hospital... ..	55
Food Examined ... ..	43
Increase in Chief Diseases ... ..	7
Infantile Death-rate ... ..	12
"    "    in Wards ... ..	11
Infantile Diseases ... ..	10
Infectious " ... ..	14
"    "    Notification of ... ..	26
Inquests ... ..	34
Insanitary Areas ... ..	36
"    Dwellings ... ..	36

Marriages	...	...	...	...	...	...	3
Measles	...	...	...	...	...	...	17
Meat, Inspection of	...	...	...	...	...	...	45
Milk-shops	...	...	...	...	...	...	44
Mortality in Wards	...	...	...	...	...	...	9
„ „ 13 Largest Towns	...	...	...	...	...	...	8
New Buildings	...	...	...	...	...	...	35
Phthisis	...	...	...	...	...	...	32
Pleurisy	...	...	...	...	...	...	33
Pneumonia	...	...	...	...	...	...	33
Population	...	...	...	...	...	...	I
Public Institutions, Deaths in	...	...	...	...	...	...	14
Refuse Destruction	...	...	...	...	...	...	49
“Shop Hours Act”	...	...	...	...	...	...	46
Scarlet Fever	...	...	...	...	...	...	19
„ „ since 1870	...	...	...	...	...	...	28
Scavenging	...	...	...	...	...	...	39
Seasonal Mortality	...	...	...	...	...	...	12
Slaughter-houses	...	...	...	...	...	...	45
Smallpox	...	...	...	...	...	...	26
Tuberculous Diseases, Other	...	...	...	...	...	...	33
Typhoid Fever	...	...	...	...	...	...	21
„ „ Notification of	...	...	...	...	...	...	23
Typhus Fever	...	...	...	...	...	...	26
Uncertified Deaths	..	..	...	...	...	...	34
Urinals	...	...	...	...	...	...	40
Vital Statistics	...	...	...	...	...	...	I
Wards, Population of	...	...	...	...	...	...	2
Whooping Cough	...	...	...	...	...	...	16
Workshops	...	...	...	...	...	...	46
Zymotic Diseases	...	...	...	...	...	...	15
„ „ in Wards	...	...	...	...	...	...	30
„ „ Other	...	...	...	...	...	...	21

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*To face page*

Table of Population, Births, and of new cases of Infectious Sickness	54
Table of Deaths during the year 1898	55
Vaccination Returns	... <i>Appendix</i>



## Statistical Summary.

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Situation : Latitude 53°4 N. ; Longitude 1°7 W.

Elevation : 250—1,000 feet.

Area of City : 10,776 acres.

Density of Population : 21·6 persons per acre.

Number of Inhabited Houses : 52,700.

Population : 216,361 (1891).

233,737 (estimated to middle of 1898).

Birth-rate : 23·92 per 1,000.

Death-rate : Recorded, 17·54 per 1,000.

Zymotic, 2·20 per 1,000.

Infantile Mortality, 184 per 1,000 births.

Total Rainfall : 28·27 inches.





# VITAL STATISTICS.

## POPULATION.

The estimate of the Registrar General of the population of the City in the middle of the year 1898 is 233,737. It is difficult to state with any approach to accuracy what the number of people living in the City is, in consequence of the chief data upon which an estimate is based having been obtained so long ago as the Spring of 1891. However, the calculations in this report are made upon the Registrar General's estimate.

The first Table shows the chief statistical rates since the year 1883.

*TABLE I.—Shewing corrected Population, Birth-rate, and Mortality Rates from 1883—1898.*

YEAR.	Corrected Estimate of Population to middle of each year.	ANNUAL RATE PER 100 LIVING.		
		Birth-Rate.	Death-Rate.	Zymotic Rate.
1883	199,214	29·88	18·77	1·5
1884	201,347	30·86	21·13	2·6
1885	203,504	30·55	18·62	1·5
1886	205,684	30·55	20·35	2·3
1887	207,887	29·83	21·44	2·9
1888	210,113	29·82	18·66	1·6
1889	212,364	29·53	21·15	2·9
1890	214,634	29·10	23·21	2·3
1891	216,938	28·64	22·12	2·35
1892	219,262	27·18	17·91	1·46
1893	221,610	27·58	20·90	3·22
1894	223,985	26·60	16·95	1·65
1895	226,384	26·03	19·80	2·47
1896	228,809	25·94	16·77	1·50
1897	231,260	24·55	17·39	2·24
1898	233,737	23·92	17·54	2·20

Appended is the distribution of the population in the Wards of the City. It will be seen that the density varies from 3·5 persons per acre in Allerton Ward, to 92·4 in the West Ward.

TABLE II.

WARDS.	Population.	Acreage.	Persons per Acre.
North ... ..	13,809	372	37·1
South ... ..	14,178	308	46·0
East ... ..	16,834	392	42·9
West ... ..	15,351	166	92·4
Listerhills ... ..	20,199	320	63·1
Great Horton ... ..	15,962	1283	12·4
Little Horton ... ..	16,533	428	38·6
East Bowling ... ..	17,354	557	31·1
West Bowling . ... ..	18,636	1004	18·5
Exchange... ..	5,236	117	44·7
Bradford Moor ... ..	18,929	674	28·0
Manningham ... ..	24,276	457	53·1
Bolton .. ... ..	9,101	994	9·1
Heaton ... ..	17,402	879	19·7
Allerton ... ..	9,937	2,815	3·5
CITY TOTAL ... .	233,737	10,776	21·6

## MARRIAGES.

From information kindly supplied by Mr. Crowther, Superintendent Registrar of the Bradford district, and by Mr. Helmsley, Superintendent of the North Bierley Registration district, I am enabled to compile the following table which shews that the marriage-rate was the same as in the previous year, viz.: 1 wedding to 107 of the population. This is equivalent to an annual rate of 18·6 persons married per 1,000 of the population. In London the corresponding figure was 18·7.

TABLE III.

Period.	Number of Marriages.	Proportion of Marriages to Population.
1891	2,171	1 in 99
1892	2,059	1 in 106
1893	1,944	1 in 114
1894	2,035	1 in 110
1895	2,053	1 in 110
1896	2,244	1 in 102
1897	2,149	1 in 107
1898	2,174	1 in 107

## BIRTHS.

The number of births registered during the year was 5,593, consisting of 2,819 males and 2,774 females. The birth-rate per 1,000 of the estimated population is 23.92, the lowest figure yet recorded in Bradford, and a diminution of 0.63 per 1,000 on the birth-rate for 1897.

TABLE IV.

*Shewing Birth-rates in Cities and Towns of England having a population of over 200,000, during the year 1898.*

Towns in order of magnitude of rates.	Birth-rate per 1000.
Salford ... ..	34.7
Birmingham ... ..	34.0
Sheffield ... ..	33.8
Hull ... ..	33.4
Liverpool ... ..	33.2
Manchester ... ..	32.7
Newcastle ... ..	31.6
Leeds ... ..	31.2
33 Large Towns ... ..	30.3
Leicester ... ..	29.5
London ... ..	29.5
Nottingham ... ..	28.9
Bristol ... ..	28.5
<b>Bradford ... ..</b>	<b>23.9</b>

Table V. shews the distribution of births in the municipal Wards; the rate per 1000 of the population varies from 17.9 in Listerhills to 30.7 in the South Ward.



TABLE V.

Shewing the Births and Birth-rate in the City of Bradford in each of the 15 Wards in 1898.

WARDS.	MALES.			FEMALES.			MALES AND FEMALES.			Birth-rate per 1000.
	Legitimate	Illegitimate.	Total.	Legitimate.	Illegitimate.	Total.	Legitimate.	Illegitimate.	Total.	
North ... ..	173	12	185	154	13	167	327	25	352	25·5
South ... ..	200	16	216	208	11	219	408	27	435	30·7
East... ..	189	2	191	180	6	186	369	8	377	22·4
West ... ..	164	14	178	164	7	171	328	21	349	22·7
Listerhills	155	8	163	193	5	198	348	13	361	17·9
Great Horton ..	189	7	196	192	3	195	381	10	391	24·5
Little Horton...	189	24	213	180	34	214	369	58	427	25·8
East Bowling ...	220	17	237	203	10	213	423	27	450	25·9
West Bowling	265	5	270	241	8	249	506	13	519	27·8
Exchange ... ..	49	6	55	37	9	46	86	15	101	19·3
Bradford Moor	265	7	272	236	11	247	501	18	519	27·4
Manningham ...	284	9	293	311	10	321	595	19	614	25·3
Bolton ... ..	85	2	87	78	4	82	163	6	169	18·6
Heaton ... ..	152	8	160	155	2	157	307	10	317	18·2
Allerton ... ..	97	6	103	107	2	109	204	8	212	21·3
CITY TOTAL ..	2676	143	2819	2639	135	2774	5315	278	5593	23·92

## DEATHS.

The total number of deaths recorded in 1898 was 4102, of which 2,030 were of males and 2,072 of females, being a slight increase on the total for the previous year.

The death-rate per 1,000 of the population is 17.54, an increase of .15 per 1000 on the rate for 1897. The death-rate for the whole of England and Wales was 17.58, for London 18.68, and for the 33 large towns 19.03 per 1,000.

TABLE VI.

YEAR.	Estimated Population in the middle of each year.	Births.	Deaths.	Annual Rate per 1000 living.	
				Births.	Deaths.
1882	197,103	6225	4142	31.59	21.01
† 1883	199,214	5953	3741	29.88	18.77
1884	201,347	6216	4255	30.86	21.13
1885	203,604	6218	3791	30.65	18.62
1886	205,684	6285	4187	30.55	20.35
1887	207,887	6202	4458	29.83	21.44
1888	210,113	6266	3922	29.82	18.66
1889	212,364	6272	4492	29.53	21.15
† 1890	214,634	6247	4982	29.10	23.21
1891	216,938	6214	4800	28.64	22.12
1892	219,262	5959	3927	27.18	17.91
1893	221,610	6112	4632	27.58	20.90
1894	223,985	5960	3797	26.60	16.95
1895	226,384	5894	4483	26.03	19.80
† 1896	228,809	5945	3838	25.94	16.77
1897	231,260	5678	4023	24.55	17.39
1898	233,737	5593	4102	23.92	17.54

† In these years, the births and deaths are those registered in 53 weeks.

In searching for the causes of the increase in the death-rate I find that four different affections chiefly contribute to it, three of which belong to the class usually known as preventible, viz., cancer, diarrhoea, measles, and tuberculous diseases.

The increase or decrease in the chief classes of diseases in comparison with average for the previous five years is shewn in Table VII.

TABLE VII.

DISEASES.	Deaths in 1898.	Average 1893-1897.	Increase or Decrease.
Heart Disease ... ..	242	312	- 70
Nervous Diseases ... ..	426	478	- 52
Bronchitis, Pneumonia, and Pleurisy ...	738	768	- 30
Atrophy and Debility ... ..	139	167	- 28
Scarlet Fever ... ..	12	40	- 28
Smallpox ... ..	...	28	- 28
Whooping Cough ... ..	67	81	- 14
Old Age ... ..	204	217	- 13
Premature Birth ... ..	118	123	- 5
Diphtheria ... ..	16	14	+ 2
Enteric Fever ... ..	46	41	+ 5
Enteritis ... ..	72	60	+ 12
Phthisis, & other Tuberculous Diseases	460	438	+ 22
Measles ... ..	104	75	+ 29
Diarrhoea ... ..	267	224	+ 43
Cancer ... ..	208	165	+ 43

The Table following allows a comparison in the chief vital statistics to be made between Bradford and twelve other large towns. It will be seen that whilst Bradford is by far the lowest on the list in the birth-rate column, yet two other towns, viz., Bristol and Leicester, record a lower death-rate; but in the proportion of deaths from zymotic diseases, Bradford occupies the best position. In the infantile mortality rate, however, Bradford takes only a medium place, six of the other towns having a lower death-rate amongst infants under one year of age.

TABLE VIII.

*Comparative Table shewing the Estimated Population, Birth-rate, Death-rate, and Infantile Death-rate in each of the Thirteen largest towns of England and Wales (those having a population of over 200,000) for the year 1898.*

	Estimated Population to middle of 1898.	Birth- Rate.	Death- Rate.	Zymotic Rate.	Deaths of Infants to 1000 Births.	Persons to an Acre.
London ...	4,504,766	29·5	18·7	2·78	167	60·3
Manchester	539,079	32·7	21·9	3·11	197	41·8
Liverpool ...	633,645	35·2	24·0	3·22	184	47·9
Birmingham	510,343	34·0	20·0	2·78	191	40·2
Leeds ..	416,618	31·2	19·2	3·12	182	19·3
Sheffield ...	354,478	33·9	20·2	3·82	195	18·1
Bristol ...	316,900	28·6	17·2	2·69	164	27·1
Nottingham	236,137	28·9	17·7	2·37	178	21·5
<b>Bradford</b>	<b>233,737</b>	<b>23·92</b>	<b>17·54</b>	<b>2·20</b>	<b>184</b>	<b>21·68</b>
Hull ... ..	229,887	33·4	18·4	2·99	182	25·6
Newcastle ...	223,021	31·7	21·4	2·84	190	41·5
Salford ...	215,702	34·7	22·7	4·03	212	41·7
Leicester ...	208,662	29·6	16·9	3·35	191	24·3

## Mortality in Wards.

The death-rates in the Wards vary from 12.51 and 12.83 per 1000 in Bolton and Heaton Wards to 20.18 and 20.42 in the South and East Bowling Wards.

TABLE IX.

*Shewing the Mortality Rates in the various Wards.*

WARDS.	Total death-rate per 1,000 living.
North .. .. .	19.9
South ... .. .	20.1
East ... .. .	14.7
West ... .. .	19.3
Listerhills .. .. .	17.8
Great Horton .. .. .	17.1
Little Horton ... .. .	19.0
East Bowling ... .. .	20.4
West Bowling ... .. .	18.9
Exchange ... .. .	18.0
Bradford Moor ... .. .	19.2
Manningham ... .. .	16.1
Bolton ... .. .	12.5
Heaton ... .. .	12.8
Allerton ... .. .	14.4
CITY TOTAL ... .. .	17.54

## Ages at Death.

INFANTILE MORTALITY.—The deaths of infants under one year of age was 1,033, equivalent to a rate of 184 per 1,000 of the children born, an increase of 5 per 1,000 on the rate for the

previous year. This rate amongst the 33 large towns varied from 150 per 1,000 births in Croydon, to 225 in Preston.

The following table gives the principal causes of infant mortality.

TABLE X.

*Rates of Mortality of Children under 1 year of age, from Chief Infantile Diseases per 1,000 Births.*

	1896.		1897.		1898.	
	Deaths.	Rate per 1,000 Births.	Deaths.	Rate per 1,000 Births.	Deaths.	Rate per 1,000 Births.
From all Causes	849	142	1019	179	1033	184
Lung Diseases ...	159	26	143	25	190	34
Convulsions .	121	20	110	19	130	23
Atrophy and Debility	125	21	121	21	119	21
Premature Birth	106	17	122	21	118	21
Diarrhœa ...	50	8	248	43	204	36
Whooping Cough	49	8	21	4	36	6
Tuberculous Disease ...	39	6	31	5	31	5
Measles ...	23	3	18	3	14	2



In the wards the infant mortality varies from 134 per 1,000 births in West Bowling Ward to 266 in the West Ward.

TABLE XI.

*Shewing number of Deaths of Infants under 1 year of age and the Death-rate per 1000 Births in each Ward.*

WARDS.	Deaths of Infants under 1 year of age.	Death-rate per 1000 Births.
North ... ..	70	198
South ... ..	78	179
East ... ..	52	137
West ... ..	93	266
Listerhills ... ..	81	224
Great Horton ... ..	69	176
Little Horton ... ..	87	203
East Bowling ... ..	115	255
West Bowling ... ..	70	134
Exchange ... ..	25	247
Bradford Moor ... ..	99	190
Manningham ... ..	87	141
Bolton ... ..	25	147
Heaton... ..	49	154
Allerton ... ..	33	155
CITY TOTAL ... ..	1033	184

Table XII. sets forth the mortality at the different times of the year. It is seen that the largest number of deaths occurred in the first and third quarters. This is chiefly due to climatic causes, the cold weather in the early part of the year causing a larger number of deaths from diseases of the

respiratory system, whilst the hot weather of the summer being more favourable to the propagation of affections of a diarrhoeal nature.

TABLE XII.

*Seasonal and Infantile Mortality.\**

WARDS.	QUARTERS.				Total Deaths.	Deaths under 5 years of age.	Percentage of Deaths under 5 years to total Deaths.	Percentage of Deaths under 1 year to total Births.
	Mar.	June.	Sept.	Dec.				
North ... ..	77	53	59	53	242	115	47·5	19·8
South ... ..	70	54	67	61	252	113	44·8	17·9
East ... ..	63	62	51	43	219	80	36·5	13·7
West ... ..	77	56	67	61	261	111	42·5	21·7
Listerhills ...	86	83	70	77	316	118	37·3	22·4
Great Horton ..	54	62	62	63	241	95	39·4	17·6
Little Horton ...	72	57	78	70	277	119	42·9	15·9
East Bowling ...	78	69	101	63	311	161	51·7	25·5
West Bowling ...	82	83	91	54	310	123	39·6	13·4
Exchange ... ..	20	20	24	19	83	38	45·7	24·7
Bradford Moor ...	74	71	87	88	320	140	43·7	19·0
Manningham ...	92	85	88	80	345	128	37·1	14·1
Bolton ... ..	30	25	26	19	100	31	31·0	14·7
Heaton ... ..	53	59	36	48	196	58	29·5	7·2
Allerton ... ..	36	31	26	33	126	44	34·9	15·5
Public Institutions	126	123	121	133	503	86	17·0	...
CITY TOTAL ..	1090	993	1054	965	4102	1560	38·0	18·4

\* In this table the deaths occurring in the Public Institutions have been deducted from the Wards in which the Institutions are situate and classified together.

TABLE XIII.

*Shewing the proportion of Deaths of Children under 1 year and under 5 in the City of Bradford, during the 20 years 1879-98.*

YEARS.	Deaths under 1 year per 1000 Births.	Deaths under 1 year per 100 Deaths at all ages.	Death-Rate under 5 years per 1000 living at that age.	Death-Rate under 5 years per 100 Deaths at all ages.
1879	152	23·5	74·3	42·4
1880	176	27·2	82·2	48·0
1881	154	25·8	56·4	40·7
1882	174	27·0	71·4	45·9
1883	147	23·4	50·5	36·8
1884	181	34·2	62·1	41·2
1885	144	23·6	49·9	37·7
1886	168	25·1	59·4	41·5
1887	179	24·9	62·0	41·6
1888	153	24·6	50·0	39·0
1889	181	25·3	60·8	42·6
1890	169	21·2	55·8	35·9
1891	181	23·4	57·2	39·0
1892	155	23·5	44·8	37·4
1893	198	26·1	79·5	39·7
1894	144	22·6	59·2	36·1
1895	203	26·6	75·9	39·2
1896	143	22·1	56·2	38·8
1897	179	25·3	64·2	36·9
1898	184	25·1	67·4	38·0

## Deaths in Public Institutions.

The deaths in the Public Institutions amounted to 503, distributed as follows:—

	Males.	Females.	Total.
Eye and Ear Hospital ... ..	7	1	8
St. Catherine's Home ... ..	—	16	16
Children's Hospital ... ..	13	17	30
City Hospital for Infectious Diseases ... ..	23	19	42
Infirmery ... ..	87	62	149
Workhouse ... ..	164	94	258
	<u>294</u>	<u>209</u>	<u>503</u>

## Infectious Diseases.

The number of deaths attributed to this class of diseases was 316, giving a zymotic death rate of 2.20 per 1000 of the population. In Table XIV. are given the figures for the past ten years.

TABLE XIV.

*Shewing number of Deaths from Zymotic Diseases in Bradford during the years 1889-1898.*

DISEASES.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	Total in 10 years for each Disease.
Small-pox ... ..	1	...	...	4	113	27	...	1	...	...	146
Measles ... ..	113	208	81	62	68	111	17	105	77	104	946
Scarlet Fever... ..	63	46	143	45	71	72	25	24	9	12	510
Diphtheria ... ..	12	8	13	10	19	13	18	12	10	16	131
Whooping Cough... ..	178	50	133	90	97	63	98	105	42	67	923
Typhus Fever ... ..	1	...	2	...	...	...	...	...	...	2	5
Typhoid Fever ... ..	48	31	27	18	48	31	39	28	30	47	347
Other or doubtful Fevers	4	3	5	1	5	1	3	...	1	1	24
Diarrhœa ... ..	205	154	106	91	292	53	361	69	349	267	1947
Total Zymotic Diseases each year ... .. }	625	500	510	321	713	371	561	344	518	516	4979

The prevalence of Infectious Disease in Bradford as compared with the thirty-three great towns is shewn in the following table.

TABLE XV.

1898	No. of Deaths.	Death-rates per 1000 living	
		Bradford.	33 Large Towns.
Small-pox ... ..		0·00	00·0
Measles ... ..	104	0·44	0·56
Scarlatina ... ..	12	0·05	0·14
Diphtheria and Croup	17	0·07	0·31
Whooping Cough ..	67	0·28	0·42
“ Fever ” ... ..	50	0·21	0·20
Diarrhœa ... ..	267	1·14	1·22
7 Zymotic Diseases ...	517	2·21	2·85

The mortality from the chief diseases of the infective order is seen in the tables following :—



*TABLE XVI.*  
*Deaths from Measles.*

WARDS.	QUARTERS.								Year 1898.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North ... ..	1	1	1	3	...	...	...	...	2	4	6
South ... ..	4	2	2	1	...	...	...	...	6	3	9
East .. ...	3	...	3	3	...	...	...	...	6	3	9
West ... ..	...	...	2	1	...	...	...	...	2	1	3
Listerhills ...	3	2	2	2	1	1	...	...	6	5	11
Great Horton ...	...	..	2	1	3	...	...	...	5	1	6
Little Horton ...	1	1	4	1	2	2	...	1	7	5	12
East Bowling ...	1	...	4	3	6	...	1	...	12	3	15
West Bowling ...	2	1	8	4	...	2	...	...	10	7	17
Exchange . . .	...	1	1	...	...	...	...	...	1	1	2
Bradford Moor...	1	1	4	1	...	...	1	...	6	2	8
Manningham ...	...	...	1	...	1	...	...	2	2	2	4
Bolton ... ..	...	...	1	...	...	...	...	...	1	...	1
Heaton ... ..	...	...	1	...	...	...	...	...	1	...	1
Allerton ... ..	...	..	...	...	...	...	...	...	...	...	...
CITY TOTAL ...	16	9	36	20	13	5	2	3	67	37	104

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
14	45	23	11	5	6	...	...	...	...	...	...	104

TABLE XVII.  
Deaths from Diphtheria.\*

WARDS.	QUARTERS.								Year 1898.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North ... ..	...	...	...	...	...	...	...	...	...	...	...
South ... ..	...	...	...	I	...	I	...	...	..	2	2
East ... ..	...	...	...	...	...	I	...	...	...	I	I
West .. ...	...	...	...	...	I	2	...	...	I	2	3
Listerhills ... ..	...	...	...	I	...	...	...	...	...	I	I
Great Horton ... ..	...	...	...	...	...	...	I	..	I	...	I
Little Horton ... ..	...	...	...	...	...	...	...	...	...	...	...
East Bowling ... ..	...	...	...	...	I	...	...	...	I	...	I
West Bowling ... ..	...	...	I	...	...	...	...	...	I	...	I
Exchange ... ..	...	...	...	...	...	...	...	...	...	...	...
Bradford Moor... ..	...	...	...	...	...	...	...	...	...	...	...
Manningham ... ..	...	...	...	...	...	I	I	...	I	I	2
Bolton ... ..	...	...	...	...	...	...	...	...	...	...	...
Heaton ... ..	...	2	...	...	...	...	...	i	...	3	3
Allerton ... ..	...	...	...	...	...	I	...	...	...	I	I
CITY TOTAL ... ..	...	2	I	2	2	6	2	I	5	II	16

<i>Ages at Death.</i>												
Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
I	I	4	I	...	9	...	...	...	...	...	...	16

\* Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XVIII.

*Deaths from Scarlet Fever.\**

WARDS.	QUARTERS.								Year 1898.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North .. ...	...	...	...	...	...	...	...	...	...	...	...
South... ..	...	...	...	...	...	...	...	...	...	..	...
East ... ..	...	...	1	...	...	...	1	...	2	...	2
West ... ..	...	...	...	...	1	...	...	...	1	...	1
Listerhills ...	...	...	...	...	...	...	...	...	...	...	...
Great Horton ..	...	...	..	...	1	...	...	...	1	...	1
Little Horton ...	...	...	...	...	..	1	...	1	...	2	2
East Bowling ...	...	...	..	...	...	...	...	...	..	...	...
West Bowling ...	...	...	...	...	1	1	1	...	2	1	3
Exchange ... ..	...	...	...	...	..	...	...	...	...	..	...
Bradford Moor...	...	...	..	...	...	...	...	...	...	...	...
Manningham ...	...	...	1	1	...	...	...	...	1	1	2
Bolton ... ..	...	...	...	...	...	..	...	...	...	...	...
Heaton ... ..	...	...	..	...	..	...	...	...	..	..	...
Allerton ... ..	...	...	..	...	...	1	...	...	...	1	1
CITY TOTAL ... ..	...	...	2	1	3	3	2	1	7	5	12

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
1	...	2	4	2	3	...	...	...	...	...	...	12

\* Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XIX.

*Deaths from Diarrhæa.\**

WARDS.	QUARTERS.								Year 1898.		
	March.		June.		Sept.		Dec.				
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North... ..	...	...	...	...	7	10	5	1	12	11	23
South... ..	...	...	...	...	3	9	1	2	4	11	15
East ... ..	...	...	...	...	2	5	...	...	2	5	7
West ... ..	3	...	1	...	9	8	1	...	14	8	22
Listerhills ..	...	...	...	1	6	8	...	2	6	11	17
Great Horton ..	...	...	...	...	2	6	1	2	3	8	11
Little Horton .	...	1	...	...	10	8	2	...	12	9	21
East Bowling ...	1	...	...	...	15	14	2	3	18	17	35
West Bowling ...	...	...	1	...	10	11	2	...	13	11	24
Exchange ... ..	1	...	...	...	5	1	1	...	7	1	8
Bradford Moor ...	...	...	1	...	11	5	1	2	13	7	20
Manningham ...	...	3	...	...	19	15	2	2	21	20	41
Bolton ... ..	...	...	...	...	2	2	...	...	2	2	4
Heaton ... ..	...	1	...	...	8	3	1	1	9	5	14
Allerton ... ..	...	...	...	...	1	2	1	1	2	3	5
CITY TOTAL ...	5	5	3	1	110	107	20	16	138	129	267

*Ages at Death.*

Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
204	31	2	...	2	...	...	...	...	1	7	20	267

\* Deaths in Public Institutions are referred to in the Wards from whence the patients come.

TABLE XX.

*Deaths from other Zymotic Diseases.*

WARDS.	Influenza.		Erysipelas.		Syphilis.		Rheumatic Fever.		Puerperal Fever.		1898.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North ... ..	1	...	...	...	...	...	1	...	...	...	2
South ... ..	1	2	...	...	2	1	1	...	...	1	8
East ... ..	2	...	...	...	...	...	1	...	...	...	3
West ... ..	...	2	...	...	...	1	...	...	...	...	3
Listerhills ... ..	1	3	...	1	1	1	...	1	...	...	8
Great Horton ... ..	1	1	...	1	...	1	1	1	...	...	6
Little Horton ... ..	2	...	1	...	1	1	1	2	...	2	10
East Bowling ... ..	2	2	1	...	...	1	1	...	...	...	7
West Bowling ..	3	2	1	...	...	...	1	3	...	1	11
Exchange ... ..	1	...	...	...	1	1	...	...	...	...	3
Bradford Moor ... ..	5	2	2	1	...	1	1	2	...	1	15
Manningham ... ..	3	7	...	1	1	1	1	1	...	1	16
Bolton ... ..	...	1	...	...	...	1	...	2	...	...	4
Heaton ... ..	...	2	...	1	...	...	1	1	...	...	5
Allerton ... ..	2	1	1	...	1	1	1	...	...	1	8
CITY TOTAL ... ..	24	25	6	5	7	11	11	13	...	7	109

\* Deaths in Public Institutions are referred to in the Wards from whence they come.

ENTERIC OR TYPHOID FEVER.—During the year 288 cases were reported to me in accordance with the provisions of the Infectious Diseases Notification Act, of which 47 had a fatal termination. Of these cases 173 were removed to the Leeds Road Hospital for isolation and treatment. Although the total number of cases has been large it is satisfactory to note the mortality has been low, the percentage fatality being only 16·3 in comparison with 20·1 for the year preceding. An analysis of the cases is contained in the tabular statements following.

TABLE XXI.

*Shewing number of cases, deaths, and case-mortality from Typhoid Fever during the year 1898.*

AGE.	CASES.		DEATHS.		Death-Rate per cent.
	Males.	Females.	Males.	Females.	
Under 5	6	6	...	1	8.3
5—10	20	18	...	2	5.2
10—20	49	36	9	3	14.1
20—30	40	34	6	6	16.2
30—40	17	20	6	1	18.9
40—50	19	10	5	3	27.5
50 and upwards	9	4	3	2	38.4
ALL AGES	160	128	29	18	16.3

TABLE XXII.

*Shewing number of deaths and percentage mortality from Typhoid Fever during each of the last 10 years.*

YEARS.	No. of Deaths.	Deaths per 100 cases notified.
1889	48	28.7
1890	31	21.5
1891	27	17.2
1892	18	22.5
1893	48	22.3
1894	31	22.0
1895	39	22.0
1896	29	19.0
1897	30	20.1
1898	47	16.3



## TABLE XXIII.

*Notification of Typhoid Fever in different Streets, 1898.*

## NORTH WARD.

1, Back Victoria Terrace	1, Northbrook Street
2, Bolton Road	1, Paperhall Court
1, Captain Street	1, Pine Street
1, Irving Street	1, Spring Gardens
1, Loom Street	1, Stanacre Place
1, Manningham Lane	4, Thurnscoe Road
1, Nathan Street	1, Wild Boar Street
1, North Street	

## SOUTH WARD.

2, Birk Street	1, Higher William Court
1, Birksland Street	1, Joseph Street
1, Bowling Back Lane	4, Leeds Road
1, Clark Street	1, Lyndhurst Street
1, Frances Street	4, Mount Street
1, Fullerton Street	1, Sutcliffe Street
1, Garnett Street	1, Thursby Street
1, Gladstone Street	1, Wakefield Road
1, Harewood Street	2, Weber Place
2, Harris Street	1, Wentworth Street

## EAST WARD.

1, Byron Street	1, Scott Street
1, Cordingley Street	1, Undercliffe Street
1, Exeter Street	1, Wilfred Street
1, Hillside Road	1, Wingfield Street
1, Oxford Road	

## WEST WARD.

1, Abbey Street	1, Raven Street
1, Bilton Place	1, Roberts Place
1, City Road	1, St. Michael's Road
1, Crown Street	1, Tetley Street
1, Eldon Place	3, Thornton Street
1, Hanover Square	1, Westgate
7, Infirmary	1, Westgrove Street
1, Longlands Street	

## LISTERHILLS WARD.

2, Abramgate	1, Duncan Street
1, Ashley Street	2, Earl Street
1, Bright Street	1, Fitzgerald Street
1, Cobden Street	1, Grantham Road

*Listerhills Ward—continued.*

- |                      |                   |
|----------------------|-------------------|
| 1, Lumby Street      | 1, Preston Street |
| 2, Mannville terrace | 1, Spring Place   |
| 1, Merton Road       | 1, Talbot Street  |
| 2, Neal Street       | 1, William Street |
| 1, Portland Street   |                   |

## GREAT HORTON WARD.

- |                      |                        |
|----------------------|------------------------|
| 1, Arncliffe Terrace | 1, Lawrence Street     |
| 3, Beckside Road     | 1, Lidget Place        |
| 2, Collins Street    | 1, Melrose Street      |
| 3, Copthorne Road    | 1, Old Road            |
| 1, Copthorne Street  | 2, Princeville Road    |
| 1, Fenton Street     | 1, Princeville Street  |
| 1, Haycliffe Lane    | 1, St. Margaret's Road |
| 1, Ingleby Place     | 2, Southfield Lane     |
| 1, Jennings Place    | 3, Stephenson Street   |

## LITTLE HORTON WARD.

- |                       |                        |
|-----------------------|------------------------|
| 2, College Road       | 2, Lower Thomas Street |
| 1, Copley Street      | 1, Manchester Road     |
| 1, Farside Green      | 1, Newall Street       |
| 1, Gower Street       | 2, Osborne Street      |
| 1, Hampden Place      | 1, Park Road           |
| 1, Holme Mount        | 1, Quaker Lane         |
| 1, Horton Green       | 1, South Street        |
| 1, Independent Street | 1, Workhouse           |
| 1, Jesse Street       |                        |

## EAST BOWLING WARD.

- |                       |                    |
|-----------------------|--------------------|
| 1, Addison Street     | 5, Moody Street    |
| 1, Balfour Street     | 1, Munster Street  |
| 3, Bolling Street     | 1, Pollard Street  |
| 1, Broom Street       | 1, Rayleigh Street |
| 1, Derwent Street     | 2, Sloane Street   |
| 1, Furnace Inn Street | 2, Wakefield Road  |
| 1, Hirst Street       | 1, Wilmot Place    |
| 1, Leicester Street   |                    |

## WEST BOWLING WARD.

- |                       |                        |
|-----------------------|------------------------|
| 1, Baird Street       | 5, Evens Terrace       |
| 2, Bengal Street      | 1, Little Cross Street |
| 1, Birch Lane         | 2, Lowfield Street     |
| 2, Bismarck Street    | 3, Manchester Road     |
| 3, Boynton Street     | 1, Parkside Road       |
| 2, Calcutta Street    | 1, Pembroke Street     |
| 1, Clough Street      | 1, Rooley Lane         |
| 1, Donisthorpe Street | 1, Rydal Street        |

*West Bowling Ward—continued.*

- |                       |                   |
|-----------------------|-------------------|
| 1, St. Stephen's Road | 2, Woodroyd Road  |
| 2, Tennant Street     | 2, Wootton Street |
| 1, Tichborne Road     |                   |

## EXCHANGE WARD.

- |                   |                  |
|-------------------|------------------|
| 1, Bridge Street  | 1, George Street |
| 2, Chandos Street | 1, Heap Street   |

## BRADFORD MOOR WARD.

- |                       |                       |
|-----------------------|-----------------------|
| 3, Amberley Street    | 1, Laurel Street      |
| 1, Armstrong Street   | 1, Leeds Road         |
| 1, Barkerend Road     | 2, Myrtle Street      |
| 1, Bowling Back Lane  | 1, Napier Street      |
| 1, Firth Street       | 1, Rufford Street     |
| 1, Furnace Inn Street | 1, Rushton Road       |
| 1, Harewood Street    | 2, School Square      |
| 1, Harrison Street    | 4, Stone Street       |
| 2, Johnson Court      | 1, Wellington Street  |
| 1, Laisterdyke        | 1, Wilberforce Street |

## MANNINGHAM WARD.

- |                        |                       |
|------------------------|-----------------------|
| 1, Alice Street        | 1, Primrose Terrace   |
| 1, Binbrook Street     | 1, Rosse Street       |
| 1, City Road           | 1, Salt Street        |
| 1, Fairbank Road       | 2, St. Michael's Road |
| 1, Fearnside's Terrace | 1, Southfield Square  |
| 3, Hollings Road       | 1, Thornton Road      |
| 1, Ingleby Street      | 1, Wallis Street      |
| 1, Manningham Lane     | 1, Woodlands Road     |
| 1, Parkfield Terrace   | 1, Young Street       |
| 1, Picton Street       |                       |

## BOLTON WARD.

- |                     |                 |
|---------------------|-----------------|
| 2, Bolton Hall Road | 1, South Parade |
| 1, Midland Road     |                 |

## HEATON WARD.

- |                    |                       |
|--------------------|-----------------------|
| 1, Abingdon Street | 1, Heidelberg Road    |
| 1, Beamsley Street | 1, North Park Terrace |
| 1, Chassum Street  | 1, Patent Street      |
| 1, Church Street   | 1, St. Mary's Road    |
| 1, Heaton Grove    |                       |

## ALLERTON WARD.

- |                    |                       |
|--------------------|-----------------------|
| 1, Bay o' Biscay   | 2, Olive Grove        |
| 1, Copy Street     | 1, Prescott Terrace   |
| 2, Cottingley Road | 1, Shaftesbury Avenue |
| 1, Hazelhurst Brow | 1, Snakehill Lane     |
| 2, Hoxton Street   | 1, Washington Street  |

**TYPHUS FEVER**—During the year there have been two outbreaks of this disease. The first one occurred in the early part of February and invaded two houses in Fitzgerald Street. Four persons were infected and two died. The second outbreak occurred in Myrtle Street, Leeds Road, but consisted of two cases only, both of which made a good recovery.

All the cases were promptly isolated in the Fever Hospital, the infected houses were at once disinfected, cleansed, and the remaining occupants kept under surveillance until all danger of the further spread of the disease was over. I feel convinced that by immediate isolation and disinfection a considerable prevalence of this most infectious and fatal disorder was prevented.

**SMALLPOX.**—One importation of Smallpox occurred during 1898. It was the case of David Broadbent, of 144, Willowfield Street. This man had been employed in repairing brickwork at the Smallpox Hospital in Middlesborough, where an epidemic of the disease was raging. He finished his work in Middlesborough on January 25th, on which day he came to Bradford, and sickened of Smallpox on the 4th of February. He was immediately isolated in the Bierley Hall Hospital. The house was disinfected and its occupants visited daily for 18 days. No extension of the disease took place.

### Notification of Infectious Diseases.

During the year the large number of 1,334 cases of Infectious disease were notified in accordance with the Infectious Diseases Notification Act; this is a large increase upon the number for the previous year, and as the following tabular statements show, is mainly due to an increase in the prevalence of Scarlatina during the latter part of the year.

TABLE XXIV.

MONTH.	1894.	1895.	1896.	1897.	1898.
January ... ..	241	103	79	52	85
February ... ..	175	60	65	56	72
March ... ..	130	48	60	61	69
April .. ...	126	42	43	41	56
May ... ..	173	64	50	58	80
June ... ..	117	36	76	62	63
July ... ..	118	72	75	60	73
August .. ...	112	57	71	50	91
September ... ..	108	66	91	68	161
October ... ..	104	113	85	80	230
November ... ..	119	18	72	62	192
December ... ..	74	62	66	60	162
TOTAL ... ..	1597	805	833	710	1334

*The diseases were constituted as follows :*

	1894.	1895.	1896.	1897.	1898.
Scarlet Fever ... ..	1035	379	397	331	796
Typhoid Fever ... ..	141	177	152	149	288
Typhus Fever ... ..	...	...	...	...	7
Smallpox ... ..	196	...	1	...	1
Continued Fever ... ..	2	...	2	1	2
Relapsing Fever ... ..	...	...	...	...	...
Puerperal Fever ... ..	22	22	18	18	19
Diphtheria ... ..	49	39	41	28	35
Membranous Croup ... ..	8	17	12	11	2
Erysipelas ... ..	144	169	210	171	184
English Cholera ... ..	...	2	...	1	...
TOTAL ... ..	1597	805	833	710	1334

The table following shews the prevalence of Scarlet Fever in Bradford since 1870.

TABLE XXV.—*Scarlet Fever.*

YEAR.	No. of Deaths.	No. of Notifications.	Death-Rate per 10,000 living.
1870	241	...	16.93
1871	144	...	9.79
1872	81	...	5.53
1873	47	...	3.00
1874	289	...	17.72
1875	458	...	27.21
1876	143	...	8.23
1877	110	...	6.13
1878	156	...	8.42
1879	184	...	9.45
1880	190	...	9.64
*1881	118	(6 mos) 424	6.41
1882	66	408	3.29
1883	36	352	1.75
1884	33	493	1.54
1885	46	786	2.15
1886	89	1118	4.06
1887	98	1308	4.37
1888	33	407	1.43
1889	63	543	2.68
1890	46	546	1.91
1891	143	1163	6.59
1892	45	944	2.05
1893	71	1445	3.20
1894	72	1035	3.21
1895	25	379	0.11
1896	24	397	1.04
1897	9	331	0.38
1898	12	796	0.51

\* First year of Notification.



TABLE XXVI.

*Notifications, Deaths, and Death-Rate from Scarlet Fever at different Age Periods during 1898.*

AGES.	Notifications.	Deaths.	Death-Rate per 100 notified.
Under 1 year ... ..	5	1	20.0
1 year and under 2 ... ..	9	...	...
2 years „ „ 3 ... ..	49	2	4.08
3 years „ „ 4 ... ..	66	4	6.06
4 years „ „ 5 ... ..	80	2	2.50
5 years „ „ 10 ... ..	367	3	0.83
10 years „ „ 15 ... ..	156	..	...
15 years and upwards ... ..	64	...	...
TOTALS .. ..	796	12	1.50

*TABLE XXVII.*  
*Shewing the number of Notifications from each Disease during 1898 in the different Wards.*

WARDS.	Smallpox	Scarlet Fever.	Typhoid Fever.	Typhus Fever.	Diphtheria	* Erysipelas	* Pu- erperal Fever.	* M'bran's Group	* Continued Fever.	TOTAL.
North ... ..	...	18	19	...	...	9	...	...	...	46
South ... ..	..	15	29	...	3	11	1	...	...	59
East ... ..	...	39	9	...	3	14	2	...	...	67
West ... ..	...	28	23	..	4	16	1	2	...	74
Listerhills ... ..	...	93	21	4	2	15	1	...	1	137
Great Horton ... ..	1	42	27	...	1	12	1	...	...	84
Little Horton ... ..	...	101	20	...	1	17	4	...	...	143
East Bowling ... ..	...	43	23	...	4	13	1	...	...	84
West Bowling ... ..	...	171	36	..	5	10	2	...	...	224
Exchange ... ..	...	8	5	...	...	3	...	...	...	16
Bradford Moor ... ..	...	26	28	3	...	19	1	...	...	77
Manningham ... ..	...	112	22	...	6	13	3	...	1	157
Bolton... ..	...	19	4	...	1	6	...	...	...	30
Heaton ... ..	...	48	9	...	4	7	...	...	...	68
Allerton ... ..	...	33	13	...	1	19	2	...	...	68
CITY TOTALS	1	796	288	7	35	184	19	2	2	1334

TABLE XXVIII.

*Shewing the Death-rate per 1000, in Bradford, and in each of its 15 Wards from Zymotic Diseases, and from all causes during 1888—1898.*

WARDS.		Seven Principal Zymotic Diseases.										All Causes.									
		1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
North	...	3.0	3.5	1.7	2.2	3.4	1.4	2.1	1.1	2.6	2.3	21.7	24.9	25.1	21.6	23.4	19.0	17.1	20.7	18.8	19.9
South	...	1.8	2.6	2.0	2.1	4.4	2.0	3.7	3.3	6.2	4.5	23.3	25.9	25.3	20.6	25.1	18.9	25.2	19.6	23.5	20.1
East...	...	1.3	1.4	1.8	1.9	1.6	1.2	1.3	1.0	1.2	1.4	17.2	18.9	21.6	16.6	17.8	15.5	19.3	16.5	15.2	14.7
West	...	3.7	3.5	2.3	1.5	4.9	2.0	3.6	0.8	2.8	1.7	25.8	27.0	24.8	20.0	23.7	18.6	24.1	18.1	17.6	19.3
Listerhills	...	2.6	1.2	1.3	0.7	1.0	1.4	1.9	0.9	0.7	1.8	18.6	21.2	22.4	18.1	18.6	15.8	17.1	14.3	13.5	17.8
Great Horton...		2.3	0.7	2.7	1.3	2.7	1.5	1.9	1.6	1.7	1.6	18.7	19.0	20.4	17.9	17.5	16.9	19.2	17.2	16.0	17.1
Little Horton...		3.4	2.0	1.5	1.8	2.8	1.8	2.6	2.2	2.3	2.9	15.6	19.2	21.1	19.0	20.3	16.8	18.6	18.3	17.1	19.0
East Bowling..		2.3	4.0	2.5	1.4	3.9	2.9	3.2	2.4	2.3	3.5	23.4	24.1	24.5	17.6	20.3	18.7	22.6	19.9	20.2	20.4
West Bowling		4.1	1.4	2.0	1.8	4.5	1.8	2.4	1.6	2.1	2.7	18.9	18.8	21.9	11.4	21.4	18.3	21.3	18.0	18.0	18.9
Ezchange	...	4.6	3.2	1.1	2.5	3.0	1.9	2.3	1.3	3.6	1.7	26.1	28.3	19.4	20.8	22.2	16.0	19.3	19.8	25.5	18.0
Bradford Moor		2.1	2.0	2.1	1.1	2.8	2.1	3.6	1.6	2.6	1.6	20.6	20.4	24.6	17.2	20.3	17.4	20.3	16.6	19.2	19.2
Manningham..		2.7	1.9	3.1	0.9	3.3	1.8	3.0	1.4	2.4	2.2	17.2	18.7	22.1	17.6	20.2	18.9	19.8	16.3	17.8	16.1
Bolton	...	1.5	1.9	0.7	2.0	2.6	1.0	1.5	0.4	1.3	0.7	14.4	17.9	15.3	14.3	19.7	14.5	14.8	11.8	12.8	12.5
Heaton	...	2.9	1.0	2.3	1.1	2.7	0.9	1.2	0.5	1.2	1.3	15.6	15.8	19.1	14.3	17.4	12.9	15.3	11.8	13.0	12.8
Allerton	...	1.9	1.1	1.7	1.0	3.2	1.3	1.9	1.3	1.0	1.6	14.8	16.6	18.4	15.7	21.2	12.4	16.4	14.1	15.6	14.4
CITY TOTAL	..	2.65	2.08	2.35	1.46	3.22	1.65	2.47	1.50	2.24	2.20	19.11	20.14	22.12	17.91	20.90	16.95	19.80	16.77	17.39	17.54

PHTHISIS.—In the Table following is shewn the number of deaths from Consumption; they amount to 382 in comparison with 372 for the previous year.

TABLE XXIX.—Deaths from Phthisis.\*

WARDS.	QUARTERS.								Year 1898.			
	March.		June.		Sept.		Dec.					
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total.	
North ... ..	3	3	2	3	6	3	2	2	13	11	24	
South ... ..	7	5	1	1	3	2	4	3	15	11	26	
East ... ..	1	3	7	2	4	5	2	2	14	12	26	
West ... ..	5	4	7	2	5	2	5	3	22	11	33	
Listerhills ... ..	2	4	3	5	4	2	5	3	14	14	28	
Great Horton ... ..	2	3	2	6	4	3	4	1	12	13	25	
Little Horton ... ..	6	7	2	3	4	1	8	8	20	19	39	
East Bowling ... ..	5	1	1	3	4	3	4	4	14	11	25	
West Bowling ... ..	4	4	2	1	5	4	2	5	13	14	27	
Exchange ... ..	3	1	3	1	2	1	5	2	13	5	18	
Bradford Moor ... ..	6	4	2	6	7	2	1	2	16	14	30	
Manningham ... ..	6	4	5	7	5	3	6	4	22	18	40	
Bolton ... ..	3	...	...	1	1	...	1	...	5	1	6	
Heaton ... ..	4	2	1	7	1	4	1	1	7	14	21	
Allerton ... ..	3	3	2	1	2	1	1	1	8	6	14	
CITY TOTAL ... ..	60	48	40	49	57	36	51	41	208	174	382	
<i>Ages at Death.</i>												
Under 1 Year.	1—	2—	3—	4—	5—	10—	15—	20—	30—	40—	50—	All Ages.
4	5	2	1	3	5	9	41	90	86	75	61	382

\*Deaths in Public Institutions are referred to in the Wards from whence the patients came.

TABLE XXX.

*Deaths from other Tuberculous Diseases.\**

WARDS.	Tuberculous Diseases.		Tabes Mesenterica.		Hydrocephalus.		1898.		
	M.	F.	M.	F.	M.	F.	M.	F.	Total.
North ... ..	2	5	...	...	...	...	2	5	7
South ... ..	4	5	1	2	1	...	6	7	13
East ... ..	3	...	2	1	...	...	5	1	6
West .. ...	8	5	4	3	1	...	13	8	21
Listerhills ... ..	5	3	1	1	...	...	6	4	10
Great Horton ... ..	3	2	...	...	...	...	3	2	5
Little Horton ... ..	6	4	...	...	...	...	6	4	10
East Bowling ... ..	1	5	...	1	1	...	2	6	8
West Bowling ... ..	8	4	...	...	...	...	8	4	12
Exchange ... ..	2	2	...	...	...	...	2	2	4
Bradford Moor ... ..	6	8	1	1	...	...	7	9	16
Manningham ... ..	6	5	1	1	...	1	7	7	14
Bolton ... ..	1	...	...	...	...	1	1	1	2
Heaton ... ..	7	6	1	...	...	...	8	6	14
Allerton ... ..	2	1	...	...	...	...	2	1	3
CITY TOTAL ... ..	64	55	11	10	3	2	78	67	145

\* Deaths in Public Institutions are referred to in the Wards  
from whence the patients came.

BRONCHITIS, PNEUMONIA AND PLEURISY.—These three chief diseases of the respiratory organs accounted for 739 deaths, 328 of which were those of children under 5 years of age. The respiratory death-rate was equal to 3·16 per 1000 of the population.

CANCER.—Table XXXI. gives the number of deaths attributed to cancerous or other forms of malignant growths.

TABLE XXXI.

*Synopsis of Deaths from Cancer during the Years 1889-98.*

	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Total No. of Deaths ...	137	129	142	159	129	146	182	182	188	208
Males ... ..	50	52	44	52	40	44	60	64	58	73
Females ... ..	87	77	98	107	89	102	122	118	130	135

### Inquests.

Two hundred and sixty-three (263) inquests were held by the City Coroner during the year, 60 of which were on children under 5 years of age.

### Uncertified Deaths.

The deaths of 50 persons were registered without certification by a Medical Practitioner or Coroner, being 1·2 per cent. of the total deaths, the average percentage of uncertified deaths for the 33 great towns being the same.

### Disinfecting Station.

The following table sets forth the work done in connection with the Disinfecting Station during 1898.

HOUSES FUMIGATED				...	...	844
ARTICLES DISINFECTED:—						
Beds ...	...	...	639	Trousers	...	45
Mattresses	...	...	239	Drawers	...	21
Pillows	...	...	986	Dresses	...	95
Bolsters	...	...	519	Petticoats	...	114
Blankets	...	...	827	Hose ...	...	32
Counterpanes	...	..	970	Dressing Gowns	...	7
Curtains	...	...	12	Shawls	...	179
Carpets		...	20	Cushions	...	65
Rugs ...	...	...	41	Mats and Sundries	...	1512
Coats ...	...	...	112			
Waistcoats	..	...	35	TOTAL	...	6470



Table A. shews that 851 new houses have been built during the year and certified as fit for habitation in accordance with the Bradford Waterworks and Improvement Act, 1875.

TABLE A.

*Shewing number of New Buildings certified as fit for habitation in each of the Wards, and in the whole City, during the years 1890—98.*

WARDS.	1890.	1891	1892.	1893.	1894.	1895.	1896.	1897.	1898.
North ... ..	9	...	64	43	8	11	2	17	16
South ... ..	104	104	69	35	16	1	6	11	79
East ... ..	77	20	49	98	54	45	26	66	138
West ... ..	3	...	3	4	9	..	...	6	2
Listerhills ..	173	72	30	17	13	3	48	31	11
Great Horton ...	67	59	37	53	106	134	70	173	196
Little Horton ...	15	40	42	4	19	21	33	1	12
East Bowling	31	61	48	60	78	15	18	45	114
West Bowling ..	187	98	59	103	115	58	72	49	78
Exchange ... ..	2	1	...	.	1	...	7	...	1
Bradford Moor ...	85	98	76	110	87	47	55	63	93
Manningham ...	130	125	116	148	44	67	94	55	14
Bolton .. ...	41	48	30	20	24	13	7	3	9
Heaton .. ...	98	31	35	65	18	31	10	36	31
Allerton ... ..	48	69	16	22	49	47	42	22	57
CITY TOTAL ..	1070	826	674	782	641	498	490	578	851

## Insanitary Dwellings.

The undermentioned houses were certified by me as unfit for habitation and ordered by the City Council to be closed in pursuance of powers vested in the Corporation by a private Act of Parliament :—

32, Wood Street	52, Shuttleworth Lane
20, Marley Street	2, Toby Lane, Great Horton

Also the undermentioned Cellar Dwellings :—

75, 34, 42, 50, 54, and 58, George Street;  
 15, 19, 21, 33, and 35, Lower William Court, Leeds Road;  
 8, Caine Place, Leeds Road;  
 33 and 51, Acre Street.

## Insanitary Area.

In September, I made a representation under Part I. of the Housing of the Working Classes Act, 1890. It was accepted by the Sanitary Committee but referred back by the Council for the consideration of some scheme to provide house accommodation for those who would be displaced by the demolition of the property contained in the area. A Sub-Committee formed for this purpose still has the matter under consideration.

# REPORT

## OF THE

### CHIEF INSPECTOR OF NUISANCES.

TO THE MEDICAL OFFICER OF HEALTH.

SIR,—The following statement shews the nature and amount of work done in the Sanitary Department during the year 1898, including an abstract of work carried out in the previous nine years.

<i>Particulars of work done.</i>	<i>No. of Cases.</i>									
	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Drains opened and cleansed ...	1356	1298	1429	1178	1236	1518	1573	1710	1757	1466
Drains provided for premises which had been previously without drainage ... ..	17	13	17	32	16	87	29	50	31	18
Sink Drains disconnected from the sewer or otherwise effectually trapped... ..	623	871	632	508	365	565	341	377	275	278
Street Gullies cleansed ... ..	2184	2867	3648	3602	4064	4831	4237	3927	5011	5247
Water Conductors provided and Down Spouts connected with the drain ... ..	1062	1251	1143	1127	947	1977	2105	1980	1856	1691
Swine and Swine Styes removed from objectionable situations ... ..	24	30	29	13	31	20	35	41	18	24
Fowls, etc., removed from dwellinghouses ... ..	162	219	114	127	87	144	113	90	70	83
Accumulations of Offensive Matter removed ... ..	479	596	689	399	257	317	409	497	513	509
Filthy Yards and Passages cleansed... ..	484	578	1099	561	481	955	753	808	560	559
Surface of Back Yards and Defective Pavement repaired	219	270	191	199	287	395	335	433	432	330
Defective Water Closets repaired .. ..	236	100	111	137	216	310	549	763	534	460

*No. of Cases.*

<i>Particulars of work done.</i>	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Stagnant Water removed from ashpits ... ..	495	376	345	286	285	419	292	295	335	231
Privies and Ashpits repaired and provided with suitable doors and covers ... ..	1177	957	779	924	964	1623	1698	1505	1428	1444
Foul Urinals repaired ... ..	32	35	20	13	46	32	47	73	33	33
Filthy Cellar Areas cleansed ...	80	81	84	74	57	85	79	80	53	57
Offensive Manure Pits removed	46	48	26	27	27	29	39	29	22	26
Defective Baths and Wash Basins repaired and disconnected from the drains ..	35	54	25	59	51	77	49	55	48	23
Privies and Ashpits removed from objectionable situations and water-closets erected in lieu thereof ... ..	370	391	265	196	2	291	40	67	...	305
New Water Closets erected ...	156	179	242	321	507	378	425	492	706	575
Stagnant Water drained off premises ... ..	130	132	92	83	132	190	238	166	195	147
Filthy Privies cleansed and lime-washed ... ..	1198	1167	1148	1026	1063	1365	1129	922	705	645
Houses and Cellar Dwellings whitewashed ... ..	295	283	237	258	254	341	203	165	220	170
Houses and Cellar Dwellings disinfected ... ..	639	532	1081	775	1979	1015	451	392	414	816
Houses closed as unfit for human habitation... ..	5	16	13	8	1	20	1	61	37	9
Cellar Dwellings closed as unfit for human habitation ... ..	15	11	18	9	1	16	...	2	4	14
Workshops closed as unfit for human habitation ... ..	...	...	...	...	...	...	3	...	...	1
General repairs of houses ...	42	34	29	42	36	78	149	56	61	79
Improvement and ventilation of premises by the removal of outbuildings, etc., from back yards ... ..	197	127	81	92	20	54	91	65	72	48
Abatement of Nuisances from over-crowding of houses, &c.	18	41	26	24	24	24	12	18	12	12
Foul Wells closed ... ..	...	...	...	2	...	2	2	6	2	1

*No. of Cases.*

<i>Particulars of work done.</i>	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.
Offensive businesses discontinued	2	...	2	2	1	...	...	...	...	...
Foul Mill Dams cleansed... ..	1	2	1	1	4	...	2	2	1	1
Rag Warehouses cleansed ...	2	6	...	4	2	2	2	4	4	6
Tripe Boilers' premises inspected	209	88	107	86	112	243	44	475	431	388
Fellmongers' premises inspected	194	10	24	34	12	20	12	21	14	16
Houses inspected where infectious diseases have occurred ..	563	522	1148	1031	2606	2670	709	724	637	1139
Bakehouses inspected ... ..	11	33	62	43	34	25	28	24	347	359
Mills and Workshops Closets inspected ... ..	...	...	1613	269	140	509	349	357	534	790

The above particulars represent only those cases where Statutory Notices have been served, and do not include nuisances prevented or abated on the verbal request of the Inspector.

The number of persons summoned for non-abatement of nuisances after Notices given is 15, as against 69 the previous year.

### Night Scavenging.

The number of ashpits reported as having been emptied during the year is 102,318, viz., from January 1st to July 15th, under the old contract, 55,889 ashpits were emptied; 2,915 loads of soil and 41,833 loads of rubbish were removed, or a total of 44,748 loads.

From July 16th to December 31st, 46,429 ashpits were emptied by the Corporation; 777 loads of soil and 29,119 loads of rubbish, or a total of 29,918 loads were removed.

No. of ashpits emptied during the year 102,318.

Loads of soil removed, 3,714.

Loads of rubbish removed, 70,952.

Total number of loads removed, 74,666.

## Burial Grounds.

During the year 181 visits have been made by the Sanitary Officers to the various graveyards within the city, but no irregularities have been observed.

Owing to the alterations which are being carried out at Rawson Place Market, by an order of the Home Secretary the remains of 165 persons, viz, 140 adults and 25 infants, have been removed from that portion of the uncovered market next James Street, and which originally formed part of the graveyard attached to the Kirkgate Wesleyan Methodist Chapel, and the same were re-interred at Bowling Cemetery under the control and supervision of the Medical Officer of Health and Sanitary Officers.

## Dangerous and Unfenced Places.

Two hundred and sixty-one places, including houses and other buildings, have been reported by the Sanitary Officers as being in a dangerous condition. These have been dealt with and made secure from personal danger, either under the direction of the City Surveyor or the Chief Inspector of Nuisances.

## Public Urinals.

The number of Public Urinals within the City is 40, being one less than last year. The Public Urinal at Allerton Road on land belonging to Mr. C. Hardy having been removed for building purposes and no other site has yet been found on which to re-erect the same.

The rest of the Urinals are in a good state of repair.

## Canal Boats.

There is only one Canal Boat registered within the City, and this, along with 190 others registered with other Authorities, but plying on the Canal within the City, has been examined by



the Chief Inspector of Nuisances or by his Assistant, and their general condition, having special regard to proper ventilation and storage of water, has been found satisfactory.

In nine cases the boats were found to be defective and water leaking into the cabins. 2 boats were found to be without certificates of registration as required by the Act, and 2 boats' certificates of registration were not produced when requested by the Inspectors. One boat was found to be totally unfit for human habitation and legal proceedings were instituted against the owner and master of the boat resulting in a penalty of £1 and 11s. costs against the owner or 11 days imprisonment. The master was acquitted on payment of 7s. costs. The owner and master of 1 boat found to be plying on the Canal without being registered were proceeded against and a penalty of 10s. and 11s. costs were inflicted against the owner. The charge against the master was dismissed on payment of 7s. costs.

The owners of the other defective boats were formally notified by the Chief Inspector of Nuisances to have the boats thoroughly repaired and provide certificates where required, and in future to conform strictly with the regulations, and accordingly the whole of the necessary repairs have since been carried out, and the necessary certificates obtained.

### Common Lodging Houses.

The number of Common Lodging Houses within the City is 41, the same as last year.

The houses contain 195 rooms for sleeping purposes, and are registered to accommodate 1913 persons nightly.

The number of persons who have been accommodated during the year is 433,486, the nightly average being 1187.

The number of visits paid by the Sanitary Officers to these houses during the year is 1978, and their reports shew the houses to have been fairly well conducted.

## Adulteration of Food and Drugs.

During the year ending December, 1898, 286 samples of food and drugs have been submitted to the City Analyst by the Food and Drugs Inspector. Of these 272 have been certified by the Analyst as pure, and 14 have been found to be adulterated. One of these was a sample of coffee, which contained 40 % of chicory, and proceedings were taken in this case, resulting in a penalty of 5/- and costs. Proceedings were also instituted in a milk of sulphur case, the defendant having to pay costs only, as this was the first case of its kind in the city under the new or 1898 section of the B P. A sample of "Scotch whiskey" was certified to be 4.6° U.P. below the standard fixed by the Act; the vendor in this case was cautioned by letter. Two samples of baking powder have been certified to be adulterated with 36.50 and 36.75 % of alum respectively, but, it having been decided in a previous case that baking powder is not a food "within the meaning of the Act," the cases were allowed to lapse. In the remaining cases of the 14 above-named, the amount of adulteration was too small to warrant further proceedings.

The Food Inspector seized and destroyed 43 bags of cockles, 66 bags of mussels, 8 boxes of haddocks, 1 small box of bacon, 330 lbs. of mushrooms, 25 couples of rabbits, 31 boxes of kippers, 4 bags of pickled shrimps, 72 pots of shrimps, 18 pots of lobster, 3 barrels of apples, and 7 kegs of pears.

The following table shews the nature of articles submitted for analysis:—

*REPORT for Year ending December, 1898.*

NATURE OF FOOD.	Samples submitted.	Pure.	Adulterated.	Proceedings taken	Cautioned.
Milk .. ..	202	200	2	..	...
Butter ... ..	26	24	2	...	...
Flour ... ..	4	4	...	...	...
Tincture of Rhubarb ..	2	2	...	...	...
Lard ... ..	3	3	...	...	...
Yeast ... ..	5	5	...	...	...
Coffee ... ..	6	4	2	1	...
Meadow Sweet Cheese ..	1	1	...	...	...
Seidlitz Powders ... ..	2	2	...	...	...
Tinned Peas ... ..	1	...	1	...	...
Tartaric Acid ... ..	2	...	2	...	...
Cream of Tartar ... ..	6	5	1	...	...
Preserved Fruit ... ..	1	1	...	..	...
Malt Vinegar .. ...	5	5	...	...	...
Sweet Spirits of Nitre ...	2	2	...	...	...
Spirits of Sal Volatile ...	1	1	...	...	...
Ground Ginger ... ..	2	2	...	...	...
Tea ... ..	3	3	...	...	...
Chewing Gums ... ..	2	2	...	...	...
Pepper ... ..	1	1	...	...	...
Fancy Sweet Cake ... ..	1	1	...	...	...
Scotch Whisky ... ..	4	3	1	...	1
Milk of Sulphur ... ..	2	1	1	1	...
Baking Powder ... ..	2	..	2	...	...
TOTALS ... ..	286	272	14	2	1

## Dairies, Cow-sheds, and Milk-shops.

There are at present registered under the Contagious Diseases (Animals) Act, 1878, 248 cow-sheds and 1109 dairies, milk-shops, and purveyors of milk, as against 244 and 1088 respectively last year.

During the year 46 applications have been made for registration of premises for the sale of milk, and upon inspection of the same by the Medical Officer of Health or the Dairies and Cowsheds Inspector, 43 of these were found to be suitable, and were registered accordingly.

Inspection has frequently been made as heretofore of the milk and milk vessels coming into the city by rail and otherwise from places beyond the city boundaries, and numerous samples thus delivered have been taken by the Food Inspector, and the results, with few exceptions, shew the milk to have been genuine and of good quality.

Six milk dealers whose vessels were found to be in a dirty condition were formally warned.

The Committee as heretofore have inspected a number of cow-sheds and milk-shops, and, where the sanitary condition thereof was found to be defective, instructions were given for the issuing of notices, requiring the requisite improvements to be carried out, and the same are now in progress.

Special attention has again been paid to the fried fish shops and ice cream makers' premises within the city, and many improvements have been effected in regard to cleanliness and general condition of these places, and in the manipulation of the commodities produced thereat.

The number of visits and inspections made by the officers has been as follows:—Cow-sheds 869, milk-shops 2,534, milk vessels 1576.

## Inspection of Meat, Slaughterhouses, Potted Meat and Sausage Manufactories.

During the year there have been 36 seizures and 138 surrenders of unsound meat, fish, and fruit.

There have been seized and destroyed 1,900 lbs. of beef, 79 lbs. of mutton, 550 lbs. of pork, 100 lbs. of veal, 42 boxes of Finnon haddocks, 19 boxes of kippers, 9 bags of cockles, 5 bags of mussels, 3 boxes of haddock, 40 boxes of herrings, 5 boxes of cod-fish, 20½ couples of rabbits, 30 bundles of celery, 12 sets of beast's offal, 1 box of sheep's offal, 2 bags of whelks, 40 boned hams, 1 box of halibut, 1,800 bloaters, 1 ton of fish, and 169 Egyptian quail.

There have been surrendered and destroyed 15,700 lbs. of beef, 2,820 lbs. of mutton, 3,730 lbs. of pork, 400 lbs. of veal, 49 boxes of Finnon haddock, 162 boxes of kippers, 52 bags of cockles, 69 bags of mussels, 40 boxes of haddock, 4 boxes of mackerel, 13 boxes of herrings, 10 boxes of cod-fish, 76 couples of rabbits, 10½ baskets of shrimps, 20 bags of oysters, 2 bags of tripe, 5 boxes of kidney, 2 boxes of sweetbread, 55 baskets of mushrooms, 1 basket of tripe, 1 bag of offals, 1 box of lamb offals, 13 cases of frozen rabbits, 10 tons of turnips, and 29 baskets of potatoes.

The above seizures and surrenders are exclusive of those made by and specified by the Food and Drugs Inspector.

The number of slaughterhouses under the old regulations remains the same as last year, viz. 7, and there are four others for which licences have to be applied for annually.

The number of places at which potted meat and sausages are made is 90, as against 81 last year, and these, together with the private slaughter-houses, are regularly visited and reported upon by the Inspectors.

The number of visits made during the year has been as follows:—Private Slaughter-houses, 358; Potted Meat and Sausage Works, 1240. The Public Abbatoirs are visited daily.

## Cattle Disease.

During the year there have been three outbreaks of Swine Fever within the City, viz., one on the premises of Thomas Newton at Dundas Street; one on premises at 263, Wakefield Road, in the occupation of John Watson, and one at Usher Street on the premises of John Hudson. An outbreak of Anthrax occurred on the farm premises at Little Horton Green in the occupation of Mr. Philip Wright, one cow out of a herd of about 20 cattle being affected with the disease, all of which were duly notified by the Sanitary Department to the Board of Agriculture whose officers took charge both of the infected animals and premises and also gave customary notices to the respective owners and occupiers as required by the Orders in Council.

## “Shop Hours Act”:—Workshops and Bakehouses.

The number of shops visited by the Inspector under the “Shop Hours Act” during the year is 1405. In 1051 of these shops young persons under the age of 18 were found to be employed, and 312 of these shopkeepers failed to comply with Section 4 of the Act by not exhibiting the necessary notice stating the number of hours which a young person may be employed in a shop.

Nineteen young persons were found to have been employed for a period exceeding 74 hours in one week.

Eighteen young persons were found employed in shops, having previously on the same day been employed in a factory or workshop for the full number of hours allowed by the “Factory and Workshops Act.”

Eight persons were summoned and convicted for offences against the Act. In one case the defendant was fined the maximum penalty of 40/- and 11/- costs. Total penalties and costs amounted to £7 7s.



WORKSHOPS AND BAKEHOUSES.—The Shop Inspector also visited 932 workshops and 359 bakehouses. 196 workshops were found without regulations; these were duly notified to Her Majesty's Inspector of Factories and Workshops.

The following is a summary of work done and sanitary defects remedied :—

Dirty Workshops limewashed and cleansed	123
Dirty Bakehouses   ,,       ,,       ,,	34
Workshops without closet accommodation ...	12
Workshops with insufficient closet accommodation   ...   ...   ...   ...   ...	3
Workshops without separate closet accommodation for the sexes ...   ...   ...	32
Defective Water-closets       ...   ...   ...	14
Dangerous Places in and adjacent to Workshops   ...   ...   ...   ...   ...	10
Gas Stoves in Workrooms without means provided to carry off the fumes...   ...	8
Underground Bakehouses closed   ...   ...	7
Workshops closed       ...   ...   ...   ...	1
Gullies removed out of Bakehouses ...   ...	8

A large number of workrooms and bakehouses have also been provided with additional ventilation.

Yours obediently,

JAS. CHAMBERS,

*Chief Inspector.*

# REPORT

OF THE SUPERINTENDENT OF THE

## ASHPIT CLEANSING AND DESTRUCTORS DEPARTMENT.

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TO THE MEDICAL OFFICER OF HEALTH.

SIR,—I beg to submit the following report of work done in the above Department, during the year 1898.

### Ashpit Cleansing Department.

The contract with Messrs. Greenwood Brothers for the emptying and cleansing of Privies and Ashpits within the City expired on the 15th of July, 1898, and on the evening of that day your Committee undertook the work in accordance with a resolution passed by the Council on the 11th of January, 1898.

The collection of refuse is now carried out in a systematic manner. The City is divided into four sections, and each section into 60 sub-sections, each consisting of one night's work. So far the system carried out has worked well.

Fifteen horses were purchased to start with, the remainder being hired from local team owners. Unfortunately the whole of the horses suffered from influenza and one died. The remainder recovered and are now working and in good health.

Temporary stabling at Harris Street was rented from Mr. Parkinson, pending the execution of the alterations and repairs to the Corporation Stables at the Hammerton Street Depot. At the last-named place the drains, floors, &c., have been thoroughly repaired, and every part of the premises has been thoroughly cleansed and painted or whitewashed. A new Hay-Chopper and a Corn-Crusher have been purchased, and

also a Horse Food Boiler. The Gas Engine has been removed and the machinery is now being driven by steam from the Destructor.

The working plant at the present time consists of 14 horses, 25 carts made by local wheelwrights and 14 purchased from Messrs. Greenwood Brothers, 2 large four-wheeled vans, 1 lurry, 31 sets of gears, and a quantity of miscellaneous tools and implements.

Two small corrugated iron buildings have been removed from Scholemoor Hospital, and fixed at Hammerton Street Depot for use as store sheds in connection with this Department.

From the 16th of July to the 31st of December, 1898, 49,866 Ashpits have been cleansed, and 32,964 loads of refuse removed therefrom.

### Destructor Department.

The following is a Report of the work done at the various Destructors during the year 1898:—

#### HAMMERTON STREET.

The number of loads of refuse destroyed is as follows;—

Ashpit Refuse ...	...	...	24,976 loads
Market „ ...	...	...	1,345 „
Shop „ ...	...	...	1,878 „
Total	...	...	<u>28,199</u> „

As against a total of 20,638 loads destroyed last year.

There has also been destroyed the carcases of 22 beasts, 11 calves, 15 sheep, 61 pigs, 1 goat, 1,250 dogs, 195 cats, 152 beds, 422 mattresses, 336 hares, 11 turkeys, 1 box and 10 shoulders of bacon, 1 horse, 33 bags of cockles and 79 bags of mussels, 4 fowls, 23 couples and 1 hamper of rabbits, 6 boxes of lemons, 2 cases of black game, 6 bags and 7 cases of oysters, 54 stones of beef, 12 boxes and 20 barrels of herrings, 2 boxes

of mackerel, 94 boxes of kippers, 1 case of eggs, 2 boxes of shrimps, 22 boxes of haddock, 11 tons of turnips, 5 boxes of kidneys, 2 boxes of sweetbreads, 12 sets and 1 box of offal, 50 cows' feet, 30 stones of cows' bags, 8 boxes of codling, 11 boxes of fish, 30 baskets and 1 load of gooseberries, 7 pillows, 100 boxes of figs, 18 stones of pork, 3 barrels of apples, 2 loads of old books, 2 sheets, 24 bags of potatoes.

4230 tons of mortar and 3039 loads of clinker have been sold during the year, as against 5060 tons and 3450 loads last year.

The New Destructor Cells erected by the Horsfall Furnace Syndicate continue to give every satisfaction.

In accordance with an Agreement made between the Corporation and Messrs. Currie and Rowlands, of Liverpool, the Corporation took over the Fish Manure Plant erected at Hammerton Street from the 7th of November last, and this work will now be carried on by the Destructors Department.

A new Clinker Crushing and Screening Machine has been erected at these works.

A Contract has been entered into with Messrs. C. and A. Musker, of Bootle, Liverpool, to supply and erect Hydraulic Machinery for the purpose of making concrete paving slabs.

Instructions have also been given to invite tenders for a considerable addition to the Electric Lighting Installation at these works. It is intended to light up the whole of the stables, &c., and also to erect Arc Lamps facing Hammerton Street and Birksland Street.

A new mechanics' shop has been fit up during the year, and considerable alterations have been made in the Blacksmith's and Waggon Repairing Shops.

The whole of the residuals at this Destructor continue to be utilized in some form or other.

## SUNBRIDGE ROAD.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	...	...	17,657	loads
Market „	...	...	569	„
Shop „	...	...	429	„
Total			<u>18,655</u>	<u>loads</u>

As against a total of 17,691 loads last year.

There has also been destroyed the carcasses of 2 beasts, 1 calf, 2 sheep, 5 pigs, 5 dogs, 23 beds, 177 mattresses, 186 stones beef, 115 stones meat, and 20 stones hams.

891 tons of mortar have been sold as against 1,330 tons last year.

Owing to the breakdown of the steam engine, the making of mortar has been temporarily discontinued at these works. Plans have been submitted and approved of by the Committee for the erection of a mortar mill shed and engine house on the vacant ground facing Sunbridge Road. The present mortar pan will be removed and an additional one procured, and it is expected that a considerable portion of the clinker made at these works will then be utilized.

Instructions have also been given for an installation of Electric Light to be made at these works.

## SOUTHFIELD LANE.

The number of loads of refuse destroyed is as follows :—

Ashpit Refuse	...	...	11,177	loads
Shop „	...	...	2	„
Total			<u>11,179</u>	<u>loads</u>

As against a total of 11,072 loads last year.

There has also been destroyed the carcasses of 2 calves, 4 sheep, 1 donkey, 19 pigs, 7 dogs, 2 cats, 16 beds and 113 mattresses.

A proposal for the re-building of this Destructor is now receiving consideration.

During the construction of the Great Horton Tramway, a considerable amount of clinker from this Destructor has been made use of.

### CLIFFE ROAD.

The number of loads of refuse destroyed is as follows : -

Ashpit Refuse ...	...	...	15,018 loads
Market „ ...	...	...	364 „
Shop „ ...	...	...	303 „
			<hr/>
			15,685 loads.
			<hr/>

As against a total of 16,653 loads last year.

There has also been destroyed the carcasses of 1 sheep, 15 dogs, 9 cats, 1 donkey, 8 beds, and 64 mattresses.

876 tons of mortar have been sold as against 1,513 tons last year.

The erection of the Clinker Crushing Machine has been completed, and 2,008 loads of screened clinker have been sold during the year.

The whole of the Residuals at this Destructor are now being utilised in some form or other.

The Electric Lighting Installation, the Mortar Pans, and the Clinker Crushing Machinery are giving every satisfaction.



## SUMMARY.

The total number of loads of refuse destroyed at all the four Destructors is as follows:—

Ashpit Refuse	...	...	...	68,828 loads
Market	,,	...	...	2,278 ,,
Shop	,,	...	...	2,612 ,,
Total	...	...	...	<u>73,718 ,,</u>

As against a total of 66,054 loads last year.

5,997 tons of mortar, and 5047 loads of screened clinker have been sold during the year, as against 7,903 tons and 3,450 loads last year.

JOHN McTAGGART.

# REPORT

OF

## BACTERIOLOGIST.

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Year ending June 30th, 1899:—

	CASES.		
Milk for Tubercular Infection	...	...	17
Throat Swabs for Diphtheria	...	...	22
Blood for Anthrax	...	...	5
Blood for Typhoid	...	...	2
Sputum for Tuberculosis	...	...	1

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47

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F. W. RICHARDSON.

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS,

Coming to the knowledge of the Medical Officer of Health, during the year 1898, in the City of Bradford  
District, classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics.  (a)	POPULATION AT ALL AGES.		Registered Births.  (d)	Aged under 5 or over 5  (e)	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.												NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.																				
	Last Census.  (b)	Estimated to middle of 1898.  (c)			1	2	3	4	5	6	7	8	9	10	11		1	2	3	4	5	6	7	8	9	10	11										
																												FEVERS.					FEVERS.				
																												Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.
Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	TOTALS.	Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	TOTALS.														
North ... ..	12783	13809	352	Under 5 ... .. 5 and upwards	...	8 10	...	...	...	1 18	...	...	...	...	1 8	10 36	...	7 8	...	...	...	...	15	...	...	...	...	7 23									
South (H) ... ..	13124	14178	435	Under 5 ... .. 5 and upwards	...	6 9	1 2	...	...	...	...	...	1	...	...	7 52	...	2 8	...	...	...	...	25	...	...	...	...	2 33									
East ... ..	15583	16834	377	Under 5 ... .. 5 and upwards	...	10 29	1 2	...	...	...	...	...	2	...	...	11 56	...	4 18	1 1	...	...	...	5	...	...	...	...	5 24									
West ... ..	14216	15351	349	Under 5 ... .. 5 and upwards	...	5 23	2 2	2	...	2 21	...	...	1	...	...	11 63	...	4 20	...	1	...	...	16	...	...	...	...	5 40									
Listerhills ... ..	18696	20199	361	Under 5 ... .. 5 and upwards	...	23 70	2	...	...	...	...	...	1	...	...	25 112	...	15 53	2	...	...	...	4	12	...	...	...	17 69									
Great Horton ... ..	14768	15962	391	Under 5 ... .. 5 and upwards	...	6 36	1	...	...	1 26	...	...	1	...	11	9 75	...	3 24	...	...	...	...	10	...	...	...	...	3 35									
Little Horton ... ..	15306	16533	427	Under 5 ... .. 5 and upwards	...	29 72	...	...	...	2 18	...	...	...	4	...	33 110	...	25 63	...	...	...	...	1 9	...	...	...	...	26 72									
East Bowling ... ..	16668	17354	450	Under 5 ... .. 5 and upwards	...	8 35	2 2	...	...	1 22	...	...	...	1	...	12 72	...	8 28	1	...	...	...	16	...	...	...	...	10 44									
West Bowling ... ..	17250	18636	519	Under 5 ... .. 5 and upwards	...	51 120	...	...	...	2 34	...	...	...	2	...	53 171	...	27 85	...	...	...	...	19	...	...	...	...	27 106									
Exchange ... ..	4846	5236	101	Under 5 ... .. 5 and upwards	...	1 7	...	...	...	2 3	...	...	...	...	...	3 13	...	1 6	...	...	...	...	2 3	...	...	...	...	3 9									
Bradford Moor ... ..	17520	18929	519	Under 5 ... .. 5 and upwards	...	8 18	...	...	...	1 27	...	...	...	1	...	9 68	...	5 8	...	...	...	...	3 20	...	...	...	...	5 32									
Manningham ... ..	22469	24276	614	Under 5 ... .. 5 and upwards	...	21 91	2 4	...	...	...	...	...	1	...	2 11	25 132	...	14 69	...	2	...	...	...	8	...	...	...	14 79									
Bolton ... ..	8425	9101	169	Under 5 ... .. 5 and upwards	...	6 13	...	...	...	...	...	...	...	...	1 5	7 23	...	3 5	...	...	...	...	...	1	...	...	...	3 6									
Heaton ... ..	16108	17402	317	Under 5 ... .. 5 and upwards	...	16 32	...	...	...	...	...	...	...	...	...	16 52	...	10 20	...	...	...	...	...	5	...	...	...	10 25									
Allerton ... ..	9199	9937	212	Under 5 ... .. 5 and upwards	...	5 28	...	...	...	...	...	...	...	2	...	6 62	...	2 13	...	1	...	...	...	5	...	...	...	2 19									
CITY TOTALS ...	216361	233737	5593	Under 5 ... .. 5 and upwards	...	203 593	11 24	2	...	12 276	...	...	19	...	9 175	237 1097	...	130 428	4 5	1	...	...	4 169	...	...	...	...	139 616									

(H) Indicates Locality of Hospitals for Infectious Diseases.





**TABLE OF DEATHS DURING THE YEAR 1898,**  
In the City of Bradford, classified according to Diseases, Ages, and Localities.

Names of Localities adopted for the purpose of these Statistics.  (a)	MORTALITY FROM ALL CAUSES AT SUBJOINED AGES.							(i)	MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																																											
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upw'ds. (h)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																						
																															Small-pox.	Scarlatina.	Diphtheria.	Membranous Croup.	FEVERS.					Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia and Pleurisy.	Heart Disease.	Pyæmia.	Injuries.	All other Diseases.	TOTALS.
																																			Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.													
North ... ..	242	70	45	6	15	66	40	Under 5 ... 5 and upwards	...	...	...	...	...	1	...	...	...	...	...	3	7	19	1	1	34	...	...	...	51	115																						
South † ... ..	294	78	42	12	21	93	48	Under 5 ... 5 and upwards	...	5	2	...	...	2	25	...	...	1	...	1	1	...	1	25	30	...	...	...	60	120																						
East ... ..	219	52	28	7	18	55	59	Under 5 ... 5 and upwards	...	1	...	...	...	...	2	...	...	...	...	...	9	4	7	...	2	17	...	...	...	40	80																					
West † ... ..	426	93	52	16	27	162	76	Under 5 ... 5 and upwards	...	...	2	1	...	1	...	...	...	...	...	1	2	18	...	2	27	...	...	2	89	145																						
Listerhills ... ..	316	81	37	9	10	87	92	Under 5 ... 5 and upwards	...	...	...	...	...	1	1	...	...	...	...	11	8	15	...	2	24	...	...	...	58	118																						
Great Horton ... ..	241	69	26	7	16	65	58	Under 5 ... 5 and upwards	...	...	1	...	...	3	...	...	...	...	...	6	5	8	...	...	20	...	...	...	55	95																						
Little Horton † ... ..	535	87	51	6	28	188	175	Under 5 ... 5 and upwards	...	...	...	...	...	2	...	...	2	...	1	17	3	17	...	...	31	...	...	1	68	138																						
East Bowling ... ..	311	115	46	7	15	75	53	Under 5 ... 5 and upwards	...	...	1	...	...	2	...	...	...	...	1	14	7	34	...	1	26	...	...	...	76	161																						
West Bowling ... ..	310	70	53	16	13	84	74	Under 5 ... 5 and upwards	...	1	...	...	...	1	...	...	1	...	1	15	9	21	...	...	30	...	...	...	46	123																						
Exchange ... ..	83	25	13	1	4	23	17	Under 5 ... 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	1	...	8	...	...	11	...	...	...	18	38																						
Bradford Moor ... ..	320	99	41	6	17	95	62	Under 5 ... 5 and upwards	...	...	...	...	...	1	...	...	1	...	...	8	4	16	...	2	26	...	...	...	84	140																						
Mauningham ... ..	345	87	41	10	12	111	84	Under 5 ... 5 and upwards	...	1	1	...	...	3	...	...	1	...	...	4	5	36	...	3	21	...	...	...	57	128																						
Bolton ... ..	100	25	6	4	6	25	34	Under 5 ... 5 and upwards	...	...	...	...	...	1	...	...	...	...	...	1	1	4	...	1	5	...	...	...	20	31																						
Heaton † ... ..	234	49	35	13	10	61	66	Under 5 ... 5 and upwards	...	...	3	...	...	...	...	...	...	...	1	1	2	16	...	...	21	...	...	1	42	84																						
Allerton ... ..	126	33	11	5	6	29	42	Under 5 ... 5 and upwards	...	1	...	...	...	2	...	...	1	...	1	...	8	5	...	1	5	...	...	...	23	44																						
CITY TOTALS ... ..	4102	1033	527	125	218	1219	980	Under 5 ... 5 and upwards	...	9	7	1	...	2	46	1	...	7	...	4	98	65	239	...	15	328	...	2	4	787	1560																					
PUBLIC INSTITUTIONS.																																																				
Eye and Ear Hospital (West) ...	8	...	...	1	5	1	1	Under 5 ... 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...																						
St. Catherine's Home (West and Heaton) ...	16	...	...	...	...	10	6	Under 5 ... 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...																						
Children's Hospital (Heaton) ...	30	13	13	4	...	...	...	Under 5 ... 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	5	...	...	...	12	...	...	1	8	26																						
Fever Hospital (South) ... ..	42	...	7	7	11	17	...	Under 5 ... 5 and upwards	...	5	2	...	2	24	...	...	...	...	...	1	...	...	...	...	1	...	...	...	3	7																						
Infirmary (West) ... ..	149	17	17	11	12	76	16	Under 5 ... 5 and upwards	...	...	2	...	...	1	...	...	...	...	...	...	...	...	2	10	...	...	2	20	34																							
Workhouse (Little Horton) ...	258	11	8	1	9	108	121	Under 5 ... 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	5	...	6	...	36	2	...	...	...	12	19																						
TOTAL DEATHS IN PUBLIC INSTITUTIONS.	503	41	45	24	37	212	144	Under 5 ... 5 and upwards	...	5	4	...	2	25	...	...	...	...	1	5	...	5	...	39	24	...	...	3	40	86																						
THE SUBJOINED NUMBERS HAVE ALSO TO BE TAKEN INTO ACCOUNT IN JUDGING OF THE ABOVE RECORDS OF MORTALITY.																																																				
Deaths occurring outside the district among persons be- longing thereto.	35	...	...	...	...	27	8	Under 5 ... 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	4	3	...	...	...	25	...																					
Deaths occurring within the district among persons not belonging thereto.	43	2	2	4	3	22	10	Under 5 ... 5 and upwards	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	1	1	1	7	28	4																					

† Public Institutions included.





# THE CITY HOSPITAL FOR INFECTIOUS DISEASES.

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During the year 1898, 760 patients were admitted into this Hospital, which, together with 35 remaining at the end of the previous year, constitute the total number which have been under treatment.

The cases of Scarlet Fever admitted amounted to 556, only 7 of which had a fatal termination.

There were 162 cases of Enteric Fever admitted, 21 of which ended fatally.

Of other diseases, including Typhus Fever, Diphtheria, and Erysipelas, 42 were admitted, 16 of which proved fatal.

The following tabular statements give more detailed information :—

*TABLE A.—General Statement.*

Remaining in Hospital 31st December, 1897 ... ..	35
Admitted during 1898 ... ..	760
	<u>795</u>
Discharged, relieved, or cured ... ..	613
Died ... ..	44
Remaining in Hospital 31st December, 1898...	138
	<u>795</u>

TABLE B.—SCARLET FEVER.

*Shewing Admissions, Deaths, and Percentage Fatality  
for the year 1898.*

AGE.	MALES.		FEMALES.		TOTAL.		
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.	Death- Rate.
Under 1	1	...	...	...	1	...	...
1 — 2	...	...	2	..	2	...	...
2 — 3	22	1	13	...	35	1	2·8
3 — 4	17	...	20	...	37	...	...
4 — 5	30	2	20	...	50	2	4·0
Total under 5	70	3	55	...	125	3	2·4
5—10	135	1	141	3	276	4	1·4
10—15	58	...	54	...	112	...	...
15—20	12	...	12	...	24	...	...
20—25	4	...	8	..	12	...	...
25—30	...	...	3	..	3	...	...
30—35	1	...	3	...	4	...	...
TOTAL ...	280	4	276	3	556	7	1·2

TABLE C.—ENTERIC FEVER.

*Shewing Admissions, Deaths, and Percentage Fatality  
for the year 1898.*

AGE.	MALES.		FEMALES		TOTAL.		
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.	Death Rate.
Under 5		...	2	...	2	..	...
5—10	14	...	12	..	26	...	...
10—15	20	1	10	1	30	2	6.6
15—20	15	3	9	...	24	3	12.5
20—25	17	2	12	1	29	3	10.3
25—30	7	3	14	3	21	6	28.5
30—35	4	2	10	...	14	2	14.2
35—40	2	1	3	...	5	1	20.0
40—50	2	1	5	2	7	3	42.8
50—60	3	1	...	...	3	1	33.3
60—70	1	...	...	...	1	...	...
TOTAL	85	14	77	7	162	21	12.9

TABLE D.

*Shewing Number of Cases admitted during each month of 1898.*

1898.	Scarlet Fever.			Enteric Fever.			Other Diseases.			Total Admissions.		
Months.	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total.
January ...	8	13	21	9	5	14	1	1	2	18	19	37
February ...	11	9	20	2	4	6	2	1	3	15	14	29
March ...	13	9	22	1	3	4	2	3	5	16	15	31
April ... ..	9	12	21	2	3	5	2	2	4	13	17	30
May ... ..	17	19	36	2	...	2	1	...	1	20	19	39
June ... ..	12	17	29	1	3	4	3	1	4	16	21	37
July ... ..	16	16	32	3	4	7	1	3	4	20	23	43
August ... ..	27	23	50	5	6	11	...	1	1	32	30	62
September ...	39	44	83	12	6	18	1	2	3	52	52	104
October ... ..	48	36	84	18	21	39	1	5	6	67	62	129
November ..	38	46	84	22	18	40	1	3	4	61	67	128
December ..	42	32	74	7	5	12	3	2	5	52	39	91
TOTAL ...	280	276	556	84	78	162	18	24	42	382	378	760

*The following Deaths occurred from Diseases other than those specifically mentioned in the foregoing Tables :*

DISEASES.						NO OF DEATHS.
Typhus Fever ...	...	...	...	..		2
Pneumonia ...	...	...	...	..		4
Diphtheria ...	...	...	...	.		4
Meningitis ...	...	..	...	...		3
Erysipelas ...	...	...	.	..		1
Cancer ...	...	...	...	..		1
Measles ...	...	...	...	...		1
TOTAL						16

# SUMMARY.

YEAR.	SMALLPOX.			ENTERIC FEVER.			SCARLET FEVER.			OTHER DISEASES.			TOTALS.			From 1872 to 1898.	
	Cases.	Deaths.	Death-rate per 100	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Aggregate No. of days spent in Hospital.	Average No. of days for each Patient.
1872	63	6	9.5	48	9	18.7	14	...	...	37	6	16.2	162	21	13.01	4,546	28
1873	94	15	16.0	54	16	29.7	19	1	5.2	36	7	18.9	203	29	14.28	6,211	30½
1874	249	48	19.27	51	11	21.56	58	6	10.34	53	12	22.6	412	76	18.44	11,715	28½
1875	20	2	10.0	44	6	13.59	103	19	18.4	37	3	8.1	204	30	13.59	6,275	30¾
1876	12	...	...	40	5	12.5	35	9	26.0	26	5	19.2	113	19	18.8	2,876	27¼
1877	19	4	21.05	65	13	20.0	72	9	12.5	27	8	29.6	183	34	18.5	5,579	31½
1878	5	1	20.0	55	13	23.6	148	17	11.5	27	3	11.1	237	34	14.3	9,263	39
1879	8	...	...	24	3	12.5	159	14	8.8	23	4	17.39	214	21	9.8	8,414	39
1880	2	1	50.0	60	8	13.3	248	38	15.3	54	7	12.9	364	54	14.8	13,192	36¼
1881	21	2	9.5	61	7	11.5	317	42	13.2	27	..	...	426	51	11.97	16,073	37¾



1882	26	3	8.8	88	17	19.3	213	31	14.5	39	5	12.8	366	56	15.32	14,766	40
1883	5	...	...	119	17	14.2	233	17	7.2	23	2	8.6	375	36	9.6	15,949	42½
1884	3	...	...	93	17	18.2	237	11	4.6	29	4	13.7	362	32	8.8	14,215	39½
1885	28	2	7.14	89	6	6.74	456	19	4.16	23	8	34.7	596	35	5.89	21,391	36
1886	4	...	...	83	8	9.63	625	29	4.64	14	2	14.3	726	39	5.37	29,305	40½
1887	3	...	...	79	7	8.86	830	21	2.27	9	5	55.5	921	33	3.58	38,609	42¼
1888	16	2	12.5	57	6	10.53	283	12	4.24	11	1	9.9	367	21	5.72	16,479	46
1889	9	1	11.11	90	26	28.89	355	40	11.27	36	6	16.67	490	73	14.90	21,315	43½
1890	...	...	...	59	11	18.64	380	22	5.78	43	12	27.90	484	45	9.30	19,940	41¼
1891	...	...	...	76	15	19.6	780	83	10.6	39	10	25.6	897	108	12.04	39,838	44
1892	25	4	16.6	41	11	26.8	587	27	4.6	32	7	21.8	685	49	7.2	29,191	42½
1893	935	100	10.6	11	4	36.3	228	17	7.8	12	1	8.3	1186	122	10.2	34,203	28.8
1894	...	...	...	42	8	19.0	525	30	5.7	16	...	...	583	38	6.5	27,124	46.5
1895	...	...	...	97	20	20.6	250	16	6.4	28	9	32.14	375	45	12.0	17,331	46.21
1896	...	...	...	77	15	19.4	248	14	5.6	21	6	28.5	346	35	10.1	17,368	50.1
1897	...	...	...	74	11	14.8	226	5	2.21	17	8	47.05	317	24	7.5	14,549	45.8
1898	...	...	...	162	21	12.9	556	7	1.2	42	16	38.09	760	44	5.8	35,112	46.2



# APPENDIX.

## BRADFORD UNION.—Vaccination Report for the Year 1897.

*ABSTRACT OF RETURNS made on the 8th day of February, 1899, by the Vaccination Officers of the Bradford Union, respecting the Vaccination of Children whose Births have been Registered from January 1st, 1897, to December 31st, 1897, inclusive.*

Registration— Sub-Districts.	Number of Births registered from 1st Jan., 1897, to 31st Dec., 1897.	Number of these Births duly entered by 8th February, 1899, in "Vaccination Register."						Per centage of cases finally accounted for to total Births.	Number of these Births which on 8th Feb., 1899, remained unentered in the "Vaccination Register" on account (as shewn by Report Book) of		All cases not accounted for in preceding columns.		
		Col. 10. "Successfully Vaccinated."	Col. 11.		Col. 13. "Dead Unvaccinated."	Total duly entered in the Register as finally accounted for.	Postpone-ment by Medical Certificate		Removals and Cases not found.				
			"Insus-ceptible of Vaccina-tion."	Consci-entious Objections.									
I	2	3	4	5	6	7	8	9	10	11	12	13	
1. Bowling ...	955	460	5	15	119	599	62.72	12	32		...	...	312
2. Bradford East	1774	817	1	...	312	1130	63.69	23	193		...	...	428
3. Bradford West	1418	621	2	14	203	840	59.23	...	96		...	...	482
4. Horton ...	1213	455	2	17	157	631	52.02	7	53		...	...	522
TOTAL ...	5360	2353	10	46	791	3260	59.70	42	374		—	—	1744





CITY OF BRADFORD.

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# REPRESENTATION

UNDER THE

Housing of the Working Classes Acts,

MADE BY THE

*Medical Officer of Health*

*To the Insanitary Areas Sub-Committee.*

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*(Ordered to be printed August 8th, 1898.)*

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BRADFORD :

HENRY GASKARTH, PRINTER, SUNBRIDGE BUILDINGS

1898.

## CITY OF BRADFORD.

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At a Meeting of the Insanitary Areas Sub-Committee, held at the Town Hall, Bradford, on Monday, August 8th, Alderman J. W. JOWETT in the Chair,

IT WAS RESOLVED—

That the report submitted by the Medical Officer of Health as to an Insanitary Area in the Longcroft Place District be printed and a copy supplied to each Member of the Sanitary Committee.

Extracted from the proceedings of the said Sub-Committee.

GEORGE McGUIRE,

TOWN CLERK.



# REPRESENTATION

BY THE  
MEDICAL OFFICER OF HEALTH.

---

Mr. CHAIRMAN, GENTLEMEN,

The Sanitary Committee on 19th May, 1897, adopted a report by the Sub-Committee on Insanitary Areas, in which there was a recommendation that certain districts, viz. :—“ Longlands Street, Longcroft Place, the district of Wapping, and many of the streets on the South side of Leeds Road ” should be dealt with under the provisions of the Housing of the Working Classes Act.

I beg now to make an official representation in respect of the first-named, viz. :—Longlands Street and Longcroft Place, but include also some adjoining Streets, the extent of the area comprised in this representation being as follows, viz. :—the whole of Longlands Street, Longcroft Place (except three houses), Garden Place, Bell Street, Turk Street, One Street ; the greater part of Chain Street ; parts of West End Street, Grattan Road, St. Thomas' Road, and Roundhill place.

This area is situate in the West Ward, and its extent as shown on the accompanying plan is 4 acres, 2 roods, 28 perches, and 23 square yards, or 22,650 square yards.

The total number of houses contained in it is 284, consisting of 254 private dwelling-houses, 10 lodging-houses, 2 public-houses, 16 houses and shops combined or lock-up shops,

1 bakehouse, and 1 store-room. The population living in these houses amounts to 1,357, giving an average of 4.8 persons per house.. The density of the population is 301 persons per acre as compared with 21 persons per acre for the whole City.

The death rate from all causes in this area was in

1895	-	45.6	per 1,000.
1896	-	42.7	„
1897	-	41.2	„

For the purposes of my representation I divide the district into two parts, the sanitary condition of one being worse than that of the other. The first part consists of Longlands Street, Longcroft Place, Garden Place and the North East side of Chain Street. I am of the opinion that some of the houses in this part of the area are unfit for habitation, and that the narrowness, closeness, and bad arrangement of the streets and houses, the want of ventilation and proper sanitary conveniences, are dangerous to the health of the inhabitants of the buildings, and I am further of opinion that the evils connected with these houses and the sanitary defects of the area cannot be effectually remedied otherwise than by an improvement scheme for the rearrangement and reconstruction of the streets and houses within this area. This part of the district contains about three-quarters of the total area referred to and includes 209 houses.

The second part of the area consisting of Bell Street, Turk Street, One Street, the South West side of Chain Street, and parts of West End Street, Roundhill Place and Grattan Road, I do not consider in need of demolition but of such improvement as will serve to give better closet accommodation, although to provide such accommodation it will be necessary to remove some of the houses.

In the event of your accepting my report and deciding to formulate an improvement scheme under Part I. of the Housing of the Working Classes Act, the consideration as to how you would deal with this part of the area may perhaps be left to some future date and dealt with under Part II. of the Act, the provisions of which are intended to apply to single houses rather than to larger areas.

The whole area is shown on the accompanying plan.

In the Appendix will be found detailed information of the Condition of the property included in the representation, together with a Chemical and Bacteriological examination of the air taken from some of the houses.

Believe me, Mr. Chairman and Gentlemen,

Yours obediently,

W. ARNOLD EVANS.



## APPENDIX.

## SUMMARY OF STREETS, HOUSES AND POPULATION.

STREET.	HOUSES.							POPULATION.
	Private Dwelling Houses.	Lodging Houses	Public Houses.	House and Shop or Lock-up-Shop	Bakehouse.	Storeroom.	Total Houses.	
Longlands Street -	53	10	2	3			68	386
Longcroft Place -	105			3	1	1	110	466
Garden Place -	6						6	25
Chain Street -	35			2			37	201
Grattan Road -	7			3			10	23
Bell Street - -	10						10	45
Turk Street - -	13						13	76
One Street - -	14						14	58
West End Street -	7						7	41
Roundhill Place -	2			1			3	14
St. Thomas Road -	2			3			5	22
Providence Street -				1			1	
	254	10	2	16	1	1	284	1,357

# LONGLANDS STREET.

---

*Total Buildings* :—68 : constituted as follows :—

Dwelling-Houses	-	-	-	53
Lodging-Houses	-	-	-	10
House and Shop combined or Lock-up Shop	-			3
Public Houses	-	-	-	2

Fourteen out of the 53 dwelling-houses are not wholly let to one tenant but divided into 34 tenements and let as “furnished rooms.”

The average width of this street is 15 feet 10 inches, and in half its length it is not divided by any cross streets, a condition which renders effective ventilation an impossibility.

## CONDITION OF HOUSES :—

*Walls, Roof, &c.* The walls of some dwellings are considerably bulged outwards ; many more require pointing. Dampness is noticed in some and in one instance the house wall adjacent to an ashpit and privy is described as “very damp.” The roofs are defective in some cases but very fair in many.

*Ceilings, floors, and staircases.* The majority of houses are stated to be in fair condition but many are dilapidated and in a shaky state. Some window frames are broken, and nearly all cellars are wet.

## *Number of Rooms.*

47	Houses	each	contain	2	Rooms.
5	”	”	”	3	”
7	”	”	”	4	”
2	”	”	”	5	”
3	”	”	”	6	”
4	”	”	”	7	”



*Drainage.* Some houses which contain slopstones have no sink waste, which in nearly every case when present requires disconnection from the drain. To some houses there is no eaves spouting. In the matter of drainage the Registered Lodging-houses are far superior to private dwelling-houses.

*Surroundings.* There is no yard space belonging to any house in this street, the houses having been built mostly in continuous rows, but here and there one has been removed to supply space for the erection of privies and ashpits. Many of the houses on the North East side are contiguous to the soil of Baptist Chapel Graveyard, moisture from which percolates through the foundations and renders the floors damp. The ashpits and privies are inconveniently placed, and generally built up to the housewall or gable end.

*Closets.* It appears as if no closet accommodation was originally provided, but a few houses have since been demolished and closets erected on the space thus made; the inhabitants of some of the houses have therefore to traverse a considerable part of the street in order to reach the closets, whilst others live unpleasantly near to them. Although in some few instances each house has its own privy or water closet, it is the rule for one privy or water closet to be used in common by the occupants of three houses. The result of such an arrangement can be better imagined than described, for the condition of the privies is usually as disgusting as it is possible for human beings to make them. Some five houses in the street are without privy accommodation, the closets having been removed by street improvement operations.

*Population.* 386.

Average No. of people per house	-	5.5
Average No. of people per closet	-	15

*Total death rate.*

In 1895	was	62.1	per	1,000
„ 1896	„	69.9	„	1,000
„ 1897	„	36.2	„	1,000

## LONGCROFT PLACE.

*Total Buildings* :—110 constituted as follows :—

Dwelling-Houses	-	-	105
House and Shop combined	-	-	3
Bakehouse	-	-	1
Storeroom	-	-	1

Five of these houses are cellar dwellings, one of which is used as a Muffin Bakery. The average width of this street is 23 feet, and most of the houses are so situate as to form *cul de sacs*, at the blind end of which the Sanitary conveniences are placed,

## CONDITION OF HOUSES :—

*Walls, Roof, &c.* Examples of every condition from that of good repair to complete ruin are to be found ; the majority of houses appear to be in fair condition, although in some the walls are distinctly leaning.

*Ceilings, floors, and staircases.* These are in fairly good condition in about thirty houses, but in the remainder there is evidence of either long continued neglect or wanton destruction.

*Number of Rooms.*

77	Houses	each	contain	2	Rooms.
23	„	„	„	3	„
5	„	„	„	4	„
5	Cellars	each	consisting	of	1 Room.

*Drainage, &c.* Many houses have no sink stones, and the waste pipes from those which do exist, although in many instances trapped are not disconnected from the sewer.

*Surroundings.* Only a few of the houses have any yard space. The privies and ashpits are usually placed at the end of each *cul de sac* clear of the houses, but those situate in the yards are built up to the house wall. The flagging of the yards is generally in a broken condition.

*Closets.* There are thirty-four privies, and thirteen water closets. Some of the former are in a bad state of repair, but the water closets are fairly good. These sanitary conveniences are placed in a better position than those in Longlands Street, but in some cases are unpleasantly near to the living room window.

*Population.*—466.

The average number of people per house - 4·2

The average number of people per closet - 9·9

*Total death rate.*

In 1895 was 49·3

„ 1896 „ 38·6

„ 1897 „ 30·0

## GARDEN PLACE.

---

*Total Buildings.*—6, all of which are private dwelling-houses.

CONDITION OF HOUSES :—

*Walls, Roof, &c.* Are in fairly good condition except in one house which is damp.

*Ceilings, Staircases, &c.* In fair condition except in one instance.

*No. of Rooms.*

5 Houses each contain 3 rooms.

1 House consists of 1 room.

*Drainage, &c.* Four sink wastes require disconnection. The caves spouting is in bad condition.

*Surroundings.* There is a row of privies and ashpits used by the inhabitants of Longcroft Place, contiguous to the back wall of those houses. The gable end of two houses adjoins the Westgate Baptist Chapel Graveyard.

*Closets.* There are two privies and one ashpit in the yard.

*Population.*—25.

Average number of persons per house - 4.1

Average number of persons per closet - 12

### CHAIN STREET.

---

*Total Buildings.*—37, constituted as follows:—

Dwelling-Houses - - 35

House and Shop combined - 2

One of the dwelling-houses is divided into tenements and let as “furnished rooms.” The average width of this street is 18 feet. The houses on the north-east side form one continuous row, and have a yard in common in the rear.

#### CONDITION OF HOUSES :—

*Walls, Roof, &c.* These are fairly good in most houses, but defective in some, and the walls of others require pointing. In one instance the house wall is bulging outwards.

*Ceilings, Staircases, &c.* Most in fair condition.

#### *Number of Rooms.*

18 houses each contain 4 rooms.

14 „ „ „ 3 „

5 „ „ „ 2 „

Some are very clean, others filthy.

*Drainage, &c.* The sink wastes are usually trapped, but some are neither trapped nor disconnected. The drainage of one yard at the corner of Grattan Road is bad.

*Surroundings.* Each house has some yard space attached to it, the yards themselves being in fairly good condition, generally, but here and there defective flagging is found.

*Closets.* The privies are too close to the back door or window, being situate in some instances only from 2 to 4 yards away. There are three water closets and twenty-eight privies for the whole street, which appear to be in a tolerably good state of repair.

*Population.*—201.

Average number of persons per house	-	5·4
Average number of persons per closet	-	6·6

## GRATTAN ROAD.

---

*Total Buildings.*—10, constituted as follows :—

Dwelling-houses	-	7
House and shop combined or lock-up shops	-	3

**CONDITION OF HOUSES.** Several of the house walls require pointing, but with this exception are in fairly good condition. The woodwork and internal fittings appear also to be very little damaged. Most of the houses have yard space attached, but the flagging is need of repair, and the yard itself dirty.

*Drainage.* As a rule the houses are not provided with sink stones, and the waste pipes from those houses which possess them are neither trapped nor disconnected.

*Number of Rooms.*

- 2 Houses each consist of one room (shops).
- 6 Houses each contain 2 rooms.
- 1 House has 4 rooms.
- 1 House has 8 rooms.

*Closets.* The closet accommodation consists of 4 water closets, situate in a triangular shaped yard, and 1 privy.

*Population.*—23.

Average number of persons per house - 2.3

Average number of persons per closet - 4.6

## BELL STREET.

---

*Total Buildings.*—10, all dwelling-houses.

CONDITION OF HOUSES. Six of the houses are built back-to-back, and four are through houses, the latter alone having any yard space attached. The walls and roofs are moderately good, but the ceilings and staircases, &c., are in bad condition and many doors and steps are broken.

All these houses consist of two rooms. Only one house is provided with a sink stone, the waste pipe from which is neither trapped nor disconnected.

*Closets.* The closet accommodation consists of two privies and two water closets.

*Population.*—45.

Average number of persons per house - 4.5

Average number of persons per closet - 11.2

## TURK STREET.

---

*Total Buildings.*—13, all dwelling-houses.

CONDITION OF HOUSES. In the case of one house the roof is in bad condition, and the gable end of another house is damp, otherwise the houses are in a fairly good state of preservation. All the houses are built back-to-back and there is no yard space attached.

*Drainage.* About half the houses are provided with sink waste pipes, one of which is neither trapped nor disconnected.



*Number of Rooms.*

6 Houses each contain 3 rooms.

7 Houses each contain 2 rooms

*Closets.* There are five privies for the thirteen houses, the walls of two houses adjoining those of the privies.

*Population.*—76.

Average number of persons per house - 5.8

Average number of persons per closet - 15.2

# ONE STREET.

*Total Buildings.*—14, all dwelling-houses.

*CONDITION OF HOUSES.* These houses are in fairly good condition with the exception of some dampness in two or three due to defective roof or spouting and want of wall pointing. All the houses with one exception are built back-to-back and no yard space attached.

*Number of Rooms.*

3 Houses each contain 3 rooms.

11 Houses each contain 2 rooms.

*Drainage, &c.* The sink waste pipes are mostly trapped but not disconnected.

*Closets.* There are eight privies for the houses in this street situated in a recess which appears to have been made by the removal of a building. The privy walls directly adjoin those of some of the houses.

*Population.*—58.

Average number of persons per house - 4.9

Average number of persons per closet - 9.2

# WEST END STREET.

*Total Buildings.*—7, all dwelling-houses.

The property is in fairly good condition with the exception of houses numbered 1, 3 and 5.

The privy accommodation is situate in a recess about the centre of the row of houses.

*Population.*—41.

Average number of persons per house - 5.8

Average number of persons per closet - 13.7

### ROUNDHILL PLACE.

---

*Total Buildings.*—3, as follows :—

Dwelling-houses - 2

House and shop - 1

CONDITION OF HOUSES.—Fairly good. Only one house has any yard space attached. All the sink wastes are trapped but not disconnected.

The closet accommodation consists of part use of privies in One street and Bell Street.

*Population.*—14.

### ST. THOMAS'S ROAD.

---

The houses in this Road mentioned in the representation number five, and consist of two dwelling-houses and three shops and houses combined.

With the exception of defective sink waste pipes the property appears to be in fair condition. Owing to recent alterations for street improvements the closets, which consist of privies, are in a much exposed position and in need of repair.

### PROVIDENCE STREET.

---

Only one building in Providence Street is included in the representation ; it is a small lock-up shop.

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## REPORT OF CITY ANALYST.

*Analysis of three samples of Air taken from Longcroft Place and Longlands Street, between 11 a.m. and 12.40 p.m., on July 25th, 1898.*

## METEOROLOGICAL CONDITIONS.

Fine day with scarcely any wind.

Average Temperature - - 71.5 F.

Average Barometric Reading - 29.70"

(A) Air taken from Back-yard in Longcroft Place, opposite No. 32.

There were three privies in the yard, from which the smell was very offensive. The yard had been recently washed and the flags were wet.

(B) Air from Mrs. Mullarky's tenement, No. 62, Longcroft Place.

The door was wide open and the only occupants were Mrs. Mullarky and two small children. The air in the room did not feel "close."

(C) Air from tenement No. 69, Longlands Street.

The occupants were three women, and the air presented no disagreeable features to the senses.

## CHEMICAL ANALYSIS OF THE SAMPLES OF AIR.

(BY VOLUME.)

	A	B	C
Nitrogen - -	78.7750	78.6773	78.7797
Oxygen - -	20.7000	20.6700	20.6950
Carbonic Acid Gas	.0663	.0882	.0664
Aqueous Vapour -	.4587	.5645	.4589
Sulphurous Acid -	Traces.	Traces.	Traces.
Sulphuric Acid -	Traces.	Traces.	Traces.
	<hr/> 100. <hr/>	<hr/> 100. <hr/>	<hr/> 100. <hr/>

## BACTERIOLOGICAL ANALYSIS.

---

	No. of Bacilli Coli Communis :—		Spores of Moulds.
	<i>Per litre.</i>	<i>Per cubic foot.</i>	<i>Per cubic foot.</i>
<b>A</b>	13	370	175
<b>B</b>	15	425	—
<b>C</b>	10	283	—

The presence of so large a number of germs which are always associated with animal excrement is due to the existence of filthy privies.

F. W. RICHARDSON, F.I.C., F.C.S.





Area edged round. Pink contains 22,650 Sq. Yds.  
or 4 Acres 2 Roods 28 Perch & 23 Sq. Yds.

Scale of Feet.







# ANNUAL REPORT

OF THE

## MEDICAL OFFICER OF HEALTH

TO THE

BRAMPTON AND WALTON URBAN  
DISTRICT COUNCIL,

FOR THE

YEAR 1898.

---

CHESTERFIELD :

Printed by WILFRED EDMUNDS at "The Derbyshire Times" Office.  
1899.



# ANNUAL REPORT

BY THE

**MEDICAL OFFICER OF HEALTH**

TO THE

*BRAMPTON AND WALTON URBAN  
DISTRICT COUNCIL,*

**FOR THE YEAR 1898.**

---

GENTLEMEN,

The past year has in many respects been satisfactory, and some important sanitary improvements have been effected.

## **Births and Deaths.**

During the year there were registered 63 births (26 boys and 37 girls), giving an annual birth-rate of 23·3 per thousand, as compared with 25·5 in the preceding year.

The deaths recorded during the year numbered 28 (18 males and 10 females). The excess of births over deaths is, therefore, 35; but I have again taken the population at 2700 in calculating the birth and death rates. The death-rate for the year is the lowest I have yet been able to record, namely 10·3, as compared with 11·1 in 1897. The following table gives a comparison of the vital statistics for

the past six years.

Year.	Birth-rate.	Death-rate.	Infantile Mortality per 1000 Births.	Zymotic Death-rate.
1893	31·5	15·0	200	1·1
1894	27·2	12·2	130	1·5
1895	26·8	12·6	102	1·1
1896	26·2	13·7	126	1·4
1897	25·5	11·1	43	1·1
1898	23·3	10·3	63	·37

At the end of the Report is the usual table giving the various causes of death ; but it is worth noting here that only one death resulted from infectious disease (Measles), giving a Zymotic death-rate of ·37, which is also the lowest figure in our record. It will be noticed that the number of deaths caused by Phthisis is somewhat larger than usual. No fewer than five deaths are set down to this cause, and most of these occurred at Holymoorside. Considerable attention has recently been directed to this subject, and it cannot be too widely known that Phthisis is now looked upon as an infectious disease, communicable from the sick to the healthy. The recognition of its true nature should lead to the adoption of practical measures, and more attention should be paid to the importance of fresh air and sunlight; bedroom ventilation; prevention of overcrowding; isolation of the sick; and disinfection of patients' sputum. The subject has also an important relation to tuberculous disease in cattle; and a pure milk supply.

The following summary gives a rough grouping of the deaths in relation to their cause:—

ZYMOTIC DISEASES:

Measles ... .. 1

## CONSTITUTIONAL DISEASES :

Phthisis ...	...	...	...	5
Cancer ...	...	...	...	2
Diabetes...	...	...	...	1

## LOCAL DISEASES :

Respiratory ...	...	...	...	5
Circulatory ...	...	...	...	2
Various ...	...	...	...	5

## DEVELOPMENTAL DISEASES :

Premature Birth ...	...	...	...	1
Old Age ...	...	...	...	6

As to age, no fewer than 11 deaths took place at or over the age of 70, and 6 of them were returned as due to senile decay.

**Infantile Mortality.**

In 1897 your District had the lowest rate of Infantile Mortality of any Urban or Rural District in the County. For 1898 the figures are not much in excess, only 4 deaths having occurred under the age of 1 year, giving a rate of 63 per thousand births. The causes of these infantile deaths were as follows :—

Premature Birth ...	...	...	...	1
Asthenia ...	...	...	...	1
Marausmus ...	...	...	...	2

Although in the summer and autumn infantile diarrhœa was extremely prevalent throughout the County, greatly increasing the death-rate in many places, not a single death is set down to this cause.

**Infectious Diseases.**

In February there was an outbreak of Scarlatina in the Industrials Schools, Ashgate Road. The Medical Officer took the necessary precautions to prevent the complaint spreading,

but in spite of his efforts 21 children became infected. The fact that the Industrial School children now attend the various Public Schools, thus affording them increased opportunities of contracting infectious diseases, renders the Institution more liable to outbreaks of this nature.

Besides these, 9 other cases of Scarlatina, involving 4 houses, were notified. These were located as follows :—

Holymoorside	...	...	..	...	6
Walton	...	...	...	...	2
Cutthorpe	...	...	...	..	1

In each case disinfectants were supplied, and the houses were afterwards fumigated. There were no deaths.

The only other Infectious disease notified was a case of Diphtheria, which occurred at Walton Hall, near the end of the year. A careful inspection of the house and farm-buildings was made, but no probable source of infection was found. About three years ago a case of Diphtheria occurred in a neighbouring cottage, and both families obtain their water-supply from the same well. I examined the water from this well, which is far removed from any dwelling, and found it to be a fair sample of surface well-water. It is placed at the bottom of a sloping field, and, of course, is liable to contamination from manure and cattle-droppings. As the lad attended school at Chesterfield, it is possible that he contracted the disease away from his own home.

In January there were a few cases of Measles, while in March, Influenza was somewhat prevalent,



and two deaths were occasioned by complications attending it.

### **Sewerage Works.**

In my report last year I went very fully into the question of Sewage treatment at Holymoorside. You decided that something should be done to improve matters, and Mr. J. Aird Murray, of Sheffield, was instructed to prepare plans. This he did, but the estimated cost of the scheme (£850) was considered to be an unreasonable amount to expend on the improvement of works for the purification of village slop water from some 80 houses, and the dye-water from the Mill. It was, therefore, decided to proceed on more cautious lines, and your Surveyor was instructed to prepare a filter-bed on the modern bacteriological principle. This has been done, and we have now at work a filter which is  $12\frac{1}{2}$  yards wide by 15 yards long, and over a yard in depth, built up from the bottom thus:—large rubble stones, small rubble stones, 6 inches ashes, and the remainder crushed coal, with a layer of sand on the surface. In my Report last month I stated “that the result is satisfactory. The bed is easily able to take all the sewage, and the examination of the effluent shows that the filter is acting not merely as a mechanical strainer, but as a bacteriological filter, as explained in my last Report.” Since then we have had another month’s experience, and the result lately has not been quite so satisfactory. The sewage does not pass through so readily, and the effluent is not so good. To improve matters the surface sand should be raked over at least once a week. Under the new system the works will require much

more attention than they have done in the past, necessitating increased remuneration to the attendant. Filters on this principle should not be used continuously. They require a daily rest of at least eight hours. At present we are using our new filter alternately with the best of the old filtering beds, each for twelve hours. But it would be better to proceed at once with the construction of another filter similar to the one we have, and alongside it. To further improve matters, and prevent the filter getting so soon choked, something should be done to remove the suspended matter. The usual way to do this is by the construction of a precipitation tank, but I think the same end might be attained at less expense by utilizing one of our old beds as a sort of settling pond. The old filtering bed on the higher side ought to be somewhat deepened and the ridges removed. The sewage would then be allowed to flood this bed, and allowed to settle before passing on to the biological filter. In a similar way the bed on the other side might be utilized for the reception of the filtered sewage, where, under the influence of air and sunlight, still further purification and discoloration would be effected before passing it into the stream. It would be a great convenience if the present reception tank had a depression made at the bottom into which the sludge would fall, and from which it could be removed by means of a pump. An automatic flushing arrangement is also required to supply the filter with sewage intermittently. With these additions and improvements, I think there can be little doubt that your Sewerage Works would meet all reasonable requirements. A circumstance which

has made the sewage treatment much easier should be mentioned. The English Sewing Cotton Co. have adopted a new system of dyeing. They have discarded the use of Logwood and its derivatives, with the result that the fine black suspended matter we have always found so troublesome has now disappeared. The appearance of the stream indicates the improvement effected. Complaints were made to me about a large number of dead fish which were observed in the stream about Christmas and for some weeks after. Knowing that a new system of dyeing had been introduced, it was, perhaps, natural to suspect it as the cause. To set the matter at rest, during the past month I have made some experiments, and I am pleased to be able to state that our sewage contains nothing injurious to fish. I have kept gold-fish alive in pure sewage effluent for three weeks, changing the water three times. This is, of course, a severe test, as in practice the sewage is diluted many hundreds of times by the water in the stream. A portion of the dye waste, the used-up base bath, is only discharged at long intervals. Through the courtesy of Messrs. Manlove I obtained some of this fluid, and diluted it with water in the portion of 1 of dye to 19 of water. I find gold-fish live in it. I think it is, therefore, improbable that our sewage had anything to do with the large number of dead fish seen in the stream. A farmer, about the time mentioned, was known to lime his land near the river, and this circumstance affords a likely explanation.

#### **Walton Water Supply.**

The question of a water supply for Walton has engaged your attention, at intervals, for many years.

I think it is now approaching a solution. I have pleasure in stating that the Chesterfield Gas and Water Board has decided to supply this portion of your district on what, I think, are very generous terms. It is proposed to construct a small reservoir near the site of the spring at Slate Pit Dale, and from it to lay a water main as far as the Blue Stoops. I have examined the water from this spring, and find it to be of excellent quality. Negotiations are now proceeding for the purchase of land for the reservoir, and if they are satisfactorily concluded, I think we can look forward to the residents of Walton having an abundant supply before the summer.

#### **Old Brampton Water Supply.**

In 1897 a child died at Old Brampton from tubercular disease of the bowel glands, and some of the other children in the same house were suffering from tubercular glands in the neck. The house is built quite close to the church-yard, and the well in the back-kitchen is not many feet from the graves. I examined the water and found it to be highly polluted, and ordered its use to be discontinued. This circumstance led me to examine the water from neighbouring wells, and I now give you the result.

1. Well at Parish Clerk's (just described), very bad.
2. „ „ George and Dragon, „
3. „ „ House below George and Dragon „
4. „ in Vicarage kitchen, bad.
5. „ „ field (supplying Vicarage), good.
6. „ „ field behind Church-yard, very bad.
7. „ behind Horsefall Row, good.

From this it will be seen that the wells in the immediate vicinity of the Church-yard are polluted,

and some of them are dangerous to use. In the case of 2 and 3 there are local insanitary conditions which might affect the water. I think if a public well were sunk and a pump erected on ground above the level of the church-yard, it would meet the requirements of the case. Perhaps the Chesterfield Gas and Water Board could be induced to undertake the supply of Old Brampton as well as Walton.

Throughout the year the general health has been good, and continues so up to the present. The death-rate is low, and the sanitary condition of your district may be considered fairly satisfactory.

Appended is the usual summary of useful work done by your Inspector of Nuisances. It only represents the more formal portion of his work. As in former years much has been done of which no record is kept.

I am,

Gentlemen,

Your obedient servant,

JAMES A. GOODFELLOW.

15TH MARCH, 1899.



Table of POPULATION, BIRTHS, and of NEW CASES OF INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer of Health, during the year 1898, in the BRAMPTON and WALTON Urban District, classified according to Diseases, Ages and Localities.

NAMES OF LOCALITIES adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	POPULATION AT ALL AGES.		Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.											Number of such cases removed from their Homes in the several Localities for treatment in Isolation Hospital.											
	Last Census.	Esti- mated to middle of 1898.			FEVERS.											FEVERS.											
			(b)	(c)	(d)	(e)	Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.
BRAMPTON & WALTON..	..	2700	63	Under 5..... 5 upwards.....	1 8	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
INDUSTRIAL SCHOOLS .....	..	....	..	Under 5..... 5 upwards.....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
TOTALS.....		2700	63	Under 5..... 5 upwards.....	8 22	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

State here whether "Notification of Infectious Diseases" is compulsory in the District. Yes. Since when? 1st. February, 1894.



**TABLE OF DEATHS during the Year 1898, in the BRAMPTON & WALTON Urban District, classified according to Diseases, Ages, and Localities.**

[illegible]

Area in Acres.....9,852.

Population, 1891...2,532.

Estimated, 1898....2,700.

Medical Officer of Health, JAMES A. GOODFELLOW.

Dated, 15th March, 1899.

**Summary of Sanitary Work done in the Inspector of Nuisances'  
Department during the Year 1898 in the Derbyshire portion of  
the Urban Sanitary District of Brampton and Walton.**

	Inspections and Observations made.	Informal Notices served by Inspector.	Legal Notices by Authority.	Nuisances Abated after Notice.
<b>DWELLING-HOUSES AND SCHOOLS—</b>				
Foul Conditions ... ..				
Structural Defects ... ..				
Overcrowding ... ..	1		1	1
Unfit for Habitation ... ..	2		2	2
Lodging Houses... ..				
Dairies and Milkshops ... ..				
Cow Sheds ... ..				
Bakehouses ... ..				
Slaughter-houses (complete list of in- spections not kept)... ..				
Canal Boats ... ..				
Ashpits and Privies ... ..	9	2	7	7
Deposits of Refuse and Manure ... ..	7	2	5	7
Water Closets ... ..				
<b>HOUSE DRAINAGE—</b>				
Defective Taps ... ..	16	1	15	10
No Disconnection ... ..	2		2	2
Other Faults ... ..	8	1	7	7
Water Supply ... ..				
Pigsties ... ..				
Animals improperly kept ... ..	1		1	1
Offensive Trades... ..				
Smoke Nuisances ... ..				
Other Nuisances... ..	3	1	2	3
<b>TOTALS ... ..</b>	<b>49</b>	<b>7</b>	<b>42</b>	<b>40</b>

**PRECAUTIONS AGAINST INFECTIOUS DISEASES.**

Houses disinfected after Infectious Diseases... .. 4  
Method of Disinfection adopted ... Fumigation by Sulphur